

A L A T E
DISCOURSE

Made in a Solemne Assembly
of Nobles and Learned
Men at *Montpellier*
in *France*;

By Sr. *Kenelme Digby*, Knight, &c.

Touching the Cure of WOUNDS
by the *Powder of Sympathy*; With
Instructions how to make the
said Powder; whereby many
other Secrets of Nature
are unfolded.

*Felix qui potuit Rerum cognoscere
causas.*

Rendred faithfully out of French
into English

By *R. White, Gent.*

London, Printed for *R. Lownes*, and
T. Davies, and are to be sold at their shops in
St. Pauls Church yard, at the sign of the *White*
Lion, and at the *Bible* over against the little
North Door of St. Pauls Church, 1658.

DISCOURSE A LATE

Made in a solemn Assembly
of Nobles and Learned
Men at Montpelier
in France

By Sir Richard Digby Knight
Touching the Cure of Wounds
by the Use of Gunpowder
Instructions how to make the
said Powder whereby many
other Secrets of War
are unfolded.

Printed by James Smith
in London
Revised faithfully into English

By H. W. G.

Printed by A. A. and
are to be sold at the
Church-yard at the
Gate of the
Burying-ground
of St. Paul's Church

21758 Kiana



TO THE
Most Noble, and He-
roick Gentleman,
JOHN DIGBYE. Esq.
at Gotbhurst.

SIR,



*I making this De-
dicatory Addresse
unto you, I may
truely say tis done
to the Renowned
Authour Himself;
for, besides the ordinary relation
of Father and Son betwixt you,
there was never, I dare boldly say,
A 3 such*

such a perfect exact similitude
twixt any two since the World be-
gan. For you resemble him, not
onely in the outward Symmetry,
in that goodly proportion, and
compartments of your body. You
are like him, not onely in
Physiognomy of face, having the
same spacious front, the same per-
spicacious eyes, with other visible
parts so marvaously alike, but
the tone of your voice, the accent
of your words, your very breath,
and articulate sounds are the
same with his; insomuch, that it
being well observed, this admira-
ble similitude, or rather Identity,
may be called one of the greatest
wonders of these times.

Now, Sir, this Resemblance being
so exact, through all the outward
parts Capapee; It may be well
presumed, that you are also like
him in the Ideas of your soul,
and the intern motions of your
mind,

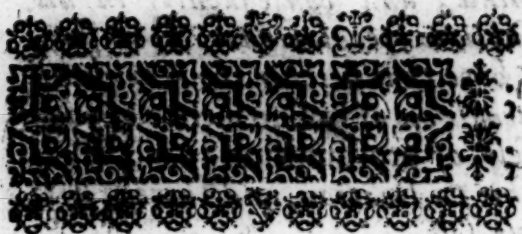
*mind, and consequently in his
sublime speculations. Therefore,
I hope, that neither the World will
accuse me of Impertinence, or your
self of presumption that I make
this Dedication, and thereby stile
my self.*

Highly Honoured Sir,

Your most humble and
ready servant

R. WHITE.

AN.



An Extract of the Royall
priviledge in France for
printing the said
Discourse.

BY the Grace, and pri-
viledge of the King,
given in Paris the one
and twentieth of De-
cember one thousand six hun-
dred fifty seven, It is permitted
to *John Ancelin* to cause to be
printed, sold, and uttered by
what Bookseller he shall think
fit, a Book intituled *A discourse*
made

*made in a famous Assembly by
Cavalier Digby, Chancellour to
the Queen of Great Britain
touching the cure of wounds by
the Powder of Sympathy, &c.*
And this during the time, and
space of ten yeares, with pro-
hibition to all Booksellers, and
Printers to counterfeit, sell or
utter the said Book without the
consent and permission of the
said *Ancelin*, or of those who
shall derive a right from him,
under the penalty of one thou-
sand five hundred *Liures*, and
of all expences, damages,
and interests, as it is more
amply contained within the
Letters of the said Privi-
ledge.

The said *Ancelin* hath trans-
mitted the right of the said
Priviledge to Augustine Courb,
and Peter Moet Marchants of
books

books in Paris, according to
the Agreement betwixt them.

*His Majesties Library is fur-
nished with two Exemplars
accordingly.*

An



An Information to the Knowing Reader.

T*His Exquisite Philosophical Discourse was made lately by that Renowned Knight, Sir Kenelme Digby, in one of the most famous Academies of France. It contains a variety of many recondit, and high mysteries of Nature, which are all here unmasked. And as all that great Scientifical Assembly, composed of the choicest wits under that Clime, stood then astonished at the profound speculations of the Author,*
(which

(which were delivered by way of
Oration, and taken in short wri-
ting upon the place as twas utter-
ed) so I believe it will work the
same effect in any Judicious Soul,
when he hath seriously perused it.

And Information to the
Knowing Reader.

R. WHITE.

The Exquisite
Physical Discharge
made lately by that
Renowned Knight, Sir
Kenselm Digby, in one of the
most famous Universities of France.
It contains a variety of many
reigns, and high mysteries of
Nature, which are all here un-
masked. And as it is a great Sci-
entific Treatise, composed of
the choicest and most valuable
Matters, it is thought fit to pre-
sent it to the perusal of the
public.

A
DISCOURSE
Touching the cure of
WOUNDS, by the
Powder of Sympathy.

My Lords,



Believe that you wil
remain all in one
mind with me, that
to penetrate, and
know a Subject, it
is necessary in the
first place, to shew
whether the thing be such as it is
supposed or imagined to be: For
would not one unprofitably lose
both his time, and labour, to busie
himself in the research of the causes
of that which peradventure is but a
Chimera, without any foundation of
truth?

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I re-

I remember to have read in a place in *Plutarch*, where he proposeth this question, Wherefore those Horses, who, while they are Colts, have been pursued by the Wolf, and saved themselves by force of running, are more fleet than other Horses? Whereunto he answers, That it may be that the scaring, and affrightment, which the Wolf gives unto the young beast, makes him try his utmost strength, to deliver himself from the danger that follows him at the heels, therefore the said fright doth as it were unknit his joynts, and stretch his sinews, and makes the ligaments, and other parts of his body, the more supple to run; insomuch, that he resents it all his life afterwards, and becomes a good courser: Or it may be, sayes he, that those Colts which are naturally swift, save themselves by flying away; whereas others, who are not so, are overtaken by the Wolf, and so become his prey: and so it is not because they have escaped the Wolf, that they are the more fleet, but it is
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their natural swiftnesse which saves them. He affords also other reasons, and at last concludes, That it may be the thing is not true; I find it not so fit (my Lords) to reply hereunto at a Table Discourse, where the chief design of conversation is to passe away the time gently and pleasantly, without meddling with the severity of high fetcht reasons to wind up the spirits, and make them more attentive. But in so renowned an Assembly as this, where there are such Judicious Persons, and so profoundly learned, and who upon this rancounter, expect from me, that I pay them in solid reasons; I should be very sorry, that having done my uttermost, to make it clear, how the Powder, which they commonly call the Powder of Sympathy, doth naturally, and without any Magick, cure wounds without touching them, yea, without seeing of the Patient; I say, I should be very sorry that it should be doubted, Whether such a cure may effectually be performed or no.

In matter of fact, the determination of existence, and truth of a thing, depends upon the report which our senses make us. This businesse is of that nature, for they who have seen the effects, and had experience thereof, and have been carefull to examine all necessary circumstances, and satisfied themselves afterwards, that there is no imposture in the thing, do nothing doubt but that it is real, and true. But they who have not seen such experiences, ought to refer themselves to the Narrations, and authority of such, who have seen such things; I could produce divers, whereof I was an ocular witnesse, nay, *Quorum pars magna fui* : But as a certain, and an accounted example in the affirmative, is convincing to determine the possibility, and truth of a matter which is doubtful : I shall content my self, because I would not trespasse too much upon your patience at this time, to make instance in one onely; but it shall be one of the clearest, the most perspicuous, and the most averred,

red that can be, not onely for the remarkable circumstances thereof, but also for the hands, which were above the *Vulgar*, through which the whole businesse passed. For the cure of a very sore hurt was perfected by this Power of Sympathy, upon a person that is illustrious, as well for his many perfections, as for his several employments. All the circumstances were examined, and sounded to the bottom, by one of the greatest, and most knowing Kings of his time, viz. King James, of England, who had a particular talent, and marvailous sagacity, to discusse natural things, and penetrate them to the very marrow; As also by his Sonne, the late King Charles, and the Duke of Buckingham, their prime Minister. And in fine, all was registred among the observations of great Chancelor Bacon, to adde by way of Appendix, unto his Natural History. And I believe, Sirs, when you shall have understood this History, you will not accuse me of vanity, if I attribute unto

my self the Introducer unto this Quarter of the World this way of curing.

Mr. *James Howel*, (well known in *France*, for his publick works, and particularly, for his *Dendrologia*, translated into French, by *Monsieur Bandonin*) coming by chance as two of his best friends were fighting in duel, he did his endeavour to part them, and putting himself between them, seized with his left hand upon the hilt of the sword, of one of the Combatants, while with his right hand he laid hold of the blade of the other : they being transported with fury one against the other, struggled so rid themselves of the hindrance their friend made, that they should not kill one another : and one of them roughly drawing the blade of his sword, cuts to the very bone the nerves, and muscles of Mr. *Howel's* hand ; and then the other disengaged his hilts, and gave a crosse blow on his adversaries head, which glanced towards his friend, who heaving up his fore hand to save the blow, he

was

was wounded on the back of his hand, as he had been before within. It seems some strange constellation rained then against him, that he should lose so much blood by parting two such dear friends, who had they been themselves, would have hazarded both their lives to have preserved his : but this involuntary effusion of blood by them, prevented that which they should have drawn one from the other. For they seeing Mr. *Hewitt* face besmeared with blood, by heaving up his wounded hand, they both run to embrace, and having searched his hurts, they bound up his hand with one of his garters, to close the veins which were cut, and bled abundantly. They brought him home, and sent for a Surgeon. But this being heard at Court, the King sent one of his own Surgeons, for his Majesty much affected the said Mr. *Hewel*.

It was my chance to be lodged hard by him: and four or five dayes after, as I was making my self ready, he came to my House, and prayed

me to view his wounds, for I understand, said he, that you have extraordinary remedies upon such occasions; and my Surgeons apprehend some fear, that it may grow to a Gangrene, and so the hand must be cut off. In effect, his countenance discovered that he was in much pain, which he said was unsupportable, in regard of the extream inflammation: I told him that I would willingly serve him, but if haply he knew the manner how I would cure him, without touching or seeing him: it may be he would not expose himself to my manner of curing, because he would think it peradventure either ineffectual, or superstitious: he replied, That the wonderful things which many have related unto me, of your way of medecinement, makes me nothing doubt at all of its efficacy; and all that I have to say unto you, is comprehended in the Spanish Proverb, *Hagase el milagro, y hagalo Mahoma*, Let the miracle be done, though Mahomet do it,

I asked

I asked him then for any thing that had the bloud upon it, so he presently sent for his garter, where-with his hand was first bound : and as I called for a Bason of water, as if I would wash my hands ; I took a handfull of Powder of Vitrol, which I had in my study, and presently dissolved it. As soon as the bloody garter was brought me, I put it within the Bason, observing in the interim what Mr. *Hewel* did, who stood talking with a Gentleman in a corner of my Chamber, not regarding at all what I was doing ; but he started suddenly, as if he had found some strange alteration in himself ; I asked him what he ailed ? I know not what ailes me, but I find that I feel no more pain, me thinks that a pleasing kind of freshnesse, as it were a wet cold napkin did spread over my hand, which hath taken away the inflammation that tormented me before ; I replied since then that you feel already so good an effect of my medicament, I advise you to cast away all your playsters,

onely keep the wound clean, and in a moderate temper, twixt heat and cold. This was presently reported to the Duke of *Buckingham*, and a little after to the King, who were both very curious to know the circumstance of the businesse, which was, that after dinner I took the garter out of the water, and put it to dry before a great fire; it was scarce dry, but Mr. *Howels* servant came running, that his Master felt as much burning as ever he had done, if not more, for the heat was such, as if his hand were twixt coles of fire: I answered, that although that had happened at present, yet he should find ease in a short time; for I knew the reason of this new accident, and I would provide accordingly, for his Master should be free from that inflammation, it may be, before he could possibly return unto him: but in case he found no ease, I wished him to come presently back again, if not, he might forbear coming. Thereupon he went, and at the instant I did put again the garter into
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the water, thereupon he found his Master without any pain at all. To be brief, there was no sense of pain afterward; but within five or six dayes the wounds were cicatrized, and entirely healed. King James required a punctual information of what had passed, touching this cure: and after it was done, and perfected, his Majesty would needs know of me how it was done, having drolled with me first (which he could do with a very good grace) about a Magitian and a Sorcerer, I answered, That I should be alwayes ready to perform what his Majesty should command; but I most humbly desired him, before I should passe further, to tell him what the Authour, of whom I had the secret, said to the great Duke of *Toscany*, upon the like occasion. It was a religious *Carmelite*, that came from the *Indies* and *Persia* to *Florence*, he had also been at *China*, who having done many marvailous cures with his Powder, after his arrival to *Toscany*, the Duke said he would be very glad to learn it of him: It was the father of
the

the Great Duke, who governs now. The *Carmelite* answered him, That it was a secret which he had learnt in the oriental parts, and he thought there was not any who knew it in *Europe* but himself, and that it deserved not to be divulged, which could not be done, if his Highness would meddle with the practise of it, because he was not likely to do it with his own hands, but must trust a Surgeon, or some other servant, so that in a short time divers other would come to know it as well as himself. But a few moneths after I had opportunity to do an important courtesie to the said Fryer, which induced him to discover unto me his secret, and the same year he returned to *Persia*; insomuch, that now there is no other knows this secret in *Europe* but myself: The King replied, That he needed not apprehend any fear that he would discover, for he would not trust any body in the World to make experience of this secret, but he would do it with his own hands, therefore he would have some of the Powder; which I delivered, instructing

fructing him in all the circumstances. Whereupon his Majesty made sundry proofs, whence he received singular satisfaction.

In the interim, Doctor *Mayerne*, his first Physician watched to discover what was done by this secret, and at last he came to know that the King made use of Vitriol. Afterwards he accosted me, saying, he durst not demand of me my secret, because I made some difficulty to discover it to the King himself. But having learnt with what matter it was to be done, he hoped that I would communicate unto him all the circumstances how it is to be used; I answered him, That if he had asked me before, I would have frankly told him all, for in his hands there was no fear that such a secret should be prostituted, and so I told him all. A little after the Doctor went to *France*, to see some fair Territories that he had purchased near *Geneva*, which was the Barony of *Arbonne*. In this voyage he went to see the Duke of *Mayerne*, who had been a long time his

his friend, and protector, and he taught him this secret, whereof the Duke made many experiments, which if any other but a Prince had done, it may be they had passed for effects of Magick and enchantments.

After the Dukes death, who was killed at the siege of *Montauban*, his Surgeon who waited upon him in doing cures, sold this secret to divers persons of quality, who gave him considerable sums for it, so that he became very rich thereby. The thing being fallen thus into many hands, remained not long in terms of a secret, but by degrees it came to be so divulged, that now there is scarce any Country Barber but knows it.

Behold now, Sirs, the genealogie of the Powder of Sympathy in this part of the World, with a notable History of a cure performed by it. It is time now to come to the discussion, which is, to know how it is made. It must be avowed that it is a marvellous thing, that the hurt of a wounded

wounded person, should be cured by the application of a remedy put to a rag of cloth, or a weapon at a great distance. And it is not to be doubted, if after a long and profound speculation, of all the economy and concatenation of naturall causes, which may be adjudged capable to produce such effects, one may fall at last upon the true causes, which must have subtile resorts and means to act. Hitherto they have been wrapped up in darknesse, and adjudged so inaccessible, that they who have undertaken to speak or write of them, (at least those whom I saw) have been contented to speak of some ingenious gentilenesse, without diving into the bottom, endeavouring rather to shew the vivacity of their spirit, and the force of their eloquence, than to satisfy their Readers, and Auditors, how the thing is really to be done. They would have us take for ready money, some terms which we understand not, nor know what they signifie. They would pay us with conveniences, with resemblances, with Sym-

Sympathies, with Magnetical virtues, and such terms, without explicating what these terms mean. They think they have done enough, if they feebly perswade any body that the businesse may be performed by a natural way, without having any recourse to the intervention of demons, and spirits: but they pretend not in any sort to have found out the convincing reasons, to demonstrate how the thing is done.

Sirs, if I did not hope to gain otherwise upon your spirits; I say, that if I did not believe, that I should be able to perswade you otherwise than by words, I would not have undertaken this enterprize: I know too well
 ——— *Quid valeant bumeri, quid ferre recusent,*

such a design requires a great fire, & vivacity of conceptions volubility of tongue, aptnesse of expressions to insinuate as it were by surprisal, that which one cannot carry away by a firme foot, and by cold reasons, though solid. A Discourse of this nature ought not to attend a stranger,
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ger, who finds himself obliged to display his sense in a language, wherein he can hardly expresse his ordinary conceptions. Nevertheless, these considerations shall not deterre me from engaging my self in an enterprize, which may seem to some much more difficult than that which I am now to performe; *viz.* to make good convincing proofs, that this Sympathetical cure may be done naturally, and to shew before your eyes, and make you touch with your finger how it may be done. You know that *perswasions* are made by ingenious *arguments*, which being expresseed with a good grace, do rather tickle the imagination, than satisfy the understanding: But *Demonstrations* are built upon certain, and approved principles, and though they be but roughly pronounced, yet they convince and draw after them necessary conclusions. They proceed as a strong Engin fastned to a gate to batter it down, or as a plate of mettall to imprint the mark of the mony, at every turn that
truth

truth makes, she approaches but little, and as it were insensibly, and makes not much noise, and there is no such great force required to turn her; but her strength, though it be slow, is invincible, that at the end, she breaks down the gate, and makes a deep impression on the piece of gold or silver: whereas the stroke of hammers, and bars, (wherewith witty discourses, and the flourished conceptions of subtil spirits) require the arme of a Giant, makes a great noise, and at the end of the account, produces little effect.

To enter then into the matter, I will, according to the method of Geometrical Demonstrations, lay six or seven Principles, as foundation-stones, whereon I will erect my structure. But I will lay them so well, and so firmly, that there will be no great difficulty to grant them. These Principles shall be like the wheels of *Archimedes*, by the advantage whereof a child might be capable to hale a shore the biggest *Carack* of *King Hieron*, which a hundred pair of

of Oxen, with all the Ropes and Cables of his *Arsenal*, were not able to stir : so by the strength of these Principles, I hope to waft my conclusions to a safe Port.

The first Principle shall be, That the whole Orb, or Sphere of the Air is filled with light. If it were needful to prove in this point, that the Light is a material, and corporal substance, and not an imaginary, and incomprehensible quality, as many Schoolmen averre, I could do it evidently enough, but I have done this in another Treatise, which hath been published not long since. And it is no new opinion, for many of the most esteemed Philosophers among the Ancients have advanced it, yea, the Great St. Augustin, in his Third Epistle to *Volusion*, doth alledge, that it is his sentiment. But touching our present businesse, whether the light be the one or the other, it matters not, tis enough to explicate her course, and the journeys she makes, whereunto our senses bear witnesse. Tis clear, that issu-
ing

ing continually out of her source, which is the Sun, and lancing her self by a marvailous celerity on all sides by streight lines, there where she rancounters any obstacles in her way, by the opposition of some hard, or opaque body, she reflects, and leaping thence to equal angles, she takes again her course by a streight line, untill she bandies some other side upon another solid body, and so she continueth to make new boundings here and there; until at the end, being chased on all sides, by the bodies which oppose her in her passage, she is tyred, and so extinguisheth. In the like manner we see a Ball in Tennis Court, being struck by a strong arm against the walls, leaps to the opposite side, that sometimes she makes the circuit of the whole Court, and finisheth her motion near the place where she was first struck. Our very eyes are witnesses of this progresse of the light, when by way of reflexion, she illuminates some obscure place, whither she cannot directly arrive; Or when issuing immediately

mediatly from the Sun, and beating upon the Moon, or some other of the Planets, the rayes which cannot find entrance there, bound upon our earth, otherwise we should not see them, and there she is reflected, broken and bruised by so many bodies, as she meets in her diversity of reflexions.

The second Principle shall be, that the light glancing so upon some body, the rayes which enter no further, and which rebound upon the superficies of the body, loosen themselves, and carry with them some small particles or atomes; just as the ball, whereof we have spoken, would carry with it some of the moisture of the wall, against which she is banded, if the plaister thereof were also moyst: and as in effect, she carryed away some tincture, of the black, wherewith the walls are coloured. The reason whereof is, that the light, that subtile, and rarified fire, coming with such an imperceptible hast, for her darts are within our eyes, as soon as her head is above
our

our Horison, making so many million of miles in an inimaginable space of time, I say, the *light beating* upon the body, which opposeth her she cannot chuse but make there some small incisions proportionable to her rarity, and subtility. And these small Atomes being cut, and loosened from their trunk, being composed of the four Elements, (as all bodies are) the heat of the light doth stick, and incorporate it self with the most humid, viscuous, and gluing parts of the said Atoms, and brings them along with her. Experience shews us this as well as Reason; for when one puts some humid cloth to dry before the fire, the fiery rayes beating thereon, those which find no entrance, but reflect thence, carry away with them some small moist bodies, which make a kind of mist betwixt the cloth and the fire. In like manner the Sun at his rising enlightning the earth, which is humidified either by rain, or the dew of the night, his beams raise a mist, which by little and little ascends to
the

the tops of the hills : and this mist doth arise according, as the Sun hath more force to draw it upwards, until at last we lose the sight thereof, and that it becomes part of the air, which in regard of its tenuity, is invisible unto us. These Atoms then are like Cavaliers, mounted on winged coursers; who go very far, untill that the Sun setting, takes from them their Pegasus and leaves them unmounted : and then they precipitate themselves in crowds to the earth, whence they sprung, the greatest part of them, and the most heavy fall upon the first retreating of the Sun, and that we call the *Serain*, which though it be so thin that we cannot see it, yet we feel it as so many small hammers, which strike upon our heads and bodies, principally the elder sort of them, for the younger sort, in regard of the boyling of their bloud, and the heat of their complexion, thrust out of them abundance of spirits, which being stronger than those that fell from the *Serain*, they repulse them, and

and hinder them to operate upon the bodies, whence these spirits came forth, as they do upon those that being grown cold by age, are not warranted by so strong an emanation of the spirits, which come out of them. The wind which blows, and is tossed to and fro, is no other than a great River of the like Atomes, drawn out of some solid bodies, which are upon the earth, and so are banded here and there; according as they find cause for that effect.

I remember to have once sensibly seen how the wind is ingendred: I passed over Mount *Cenis*, to go for *Italy*, towards the beginning of Summer, and I was advanced to half the hill, as the Sun did rise cleer, and luminous, but before I could see his body, because the Mountains interposed: I observed his rayes, which did guild the top of the Mountain *Viso*, which is the Pyramid of a Rock, a good deal higher than Mount *Cenis*, and all the neighbouring Mountains. Many are of opinion, that it is the highest Mountain in the
World,

World, after the *Pic of Tenariff*, in the gran Canarie, and this Mount *Viso* is alwayes covered with snow, I observed then, that about that place, which was illuminated by the Solar rayes, there was a fog which at first was of no greater extent then an ordinary boule, but by degrees it grew greater, that at last, not onely the top of that Mountain, but all the neighbouring hills, were canopied all over with a cloud. I was now come to the top of Mount *Cenis*, and finding my self in the streight line, which passeth from the Sun to Mount *Viso*, I staid awhile to behold it, while my people were coming up the hill behind, for having more men to carry my chair than they had, I was there sooner. It was not long that I might perceive the said fog descend gently to the place where I was, and I began to feel a freshnesse that came over my face, when I turned it that way. When all my Troup was come about me, we went descending the other side of Mount *Cenis*, towards *Saze*, and the
C lower

lower we went, we sensibly found it that the wind began to blow hard behind our backs, for our way obliged us to go towards the side, where the Sun was. We met with Passengers that were going up, and we down, they told us that the wind was very impetuous below, and did much incommode them, by blowing in their faces and eyes, but the higher they came, it was lesser and lesser : and, touching our selves, when we had come to the place where they said the wind blew so hard, we found a kind of storm, and it encreased still the lower we went, untill the Sun being well advanced, drew no more by that line, but caused a wind in some other place. The people of that Country assured me, that it was there alwayes so, if some extraordinary and violent accident did not intervene, and divert his ordinary course, which is, that upon a certain hour of the day, the wind doth raise it self to such a rumb, or point, & when the Sun is come to another point, another wind riseth, and

so

so from hand to hand it changes the point till the Sun set, which alwayes brings with it a calm, if the weather be fair, and that alwayes comes from the Mount *Viso*, opposite to the Sun. They told us also, that the daily wind is commonly stronger towards the bottom of the Mountain, than towards the top, whereof thereason is evident, for the natural movement of every body natural doth encrease always in swiftnesse, according as it moves forward to its center, and that in an unequal number, (as *Galileo* hath ingeniously demonstrated, I did it also in another Treatise) that is to say, that if at the first moment it advanceth an ell, in the second it advanceth three, in the third five, in the fourth seven, and so it continueth to augment in the same manner, which proceeds from the density, and figure, of the descending body acting upon the cessibility of the medium. And these smal bodies which cause a wind from Mount *Viso* are thick, and terrestrial; for the snow being composed of aquatical parts, and of earthly united by the cold, when the heat

of the Solar beams doth disunite and separate them, the viscous parts flie with them, while the terrestrial, being too heavy to fly upward, fall presently downward. This makes me remember a very remarkable thing, which befel me when I was with my Fleet in the Port of *Scanderon*, or *Alexandrette*, towards the bottom of the *Mediterranean Sea* : there they use to disembark, when they go to *Aleppo*, or *Babylon*. I had done already what I had intended to do in those seas, and happily compassed my design, so it imported me much to return to *England* as soon as possibly I could, and the rather because my Ships were battered by a great fight, which I had had a little before, against a formidable power ; which, although I had obtained the better, yet in so furious a dispute, my Fleet was in some disorder, and my Ships full of wounded men. To advise therefore of the most expedient road to come to some harbour, where I might repair my Ships, and be in surety ; I assembled
all

all my Captains, Pilots, and Mariners, the most experienced of my Fleet; and having propounded unto them my design, they were all of an unanimous opinion, that the surest course was towards the South, and to coast upon *Syria*, *Judea*, *Egypt*, and *Africa*, and render ourselves at the streight of *Gibraltar*, and sailing so near the body of the earth, we should have every night some small breezes of wind, whereby we should in a short time make our voyage. And besides, we should not be in any great danger to meet either with *Spanish* or *French* Fleets, for *England* was at that time in open war with both those Kings, and we had advise that they had great Fleets abroad, to vindicate some things we had done in prejudice of them, both those sixteen moneths that we remained Master of those seas, therefore it concerned us to make towards some safe Port, where we might both refresh our men, and repair our battered Vessels.

My opinion was clean contrary

to theirs, for I believed our best course were to steer our course Westward, and to saile along the coasts of *Cilicia*, *Pamphylia*, *Lydia*, *Natolia*, or *Asia* the Lesse, and to traverse the mouth of the *Archipelago*, leave the *Adriatick* on the right hand, and passe by *Sicily*, *Italy*, *Sardinia*, *Corfica*, the Golps of *Lion*, and so coast all *Spain*, telling them that it would be a great dishonour unto us to forsake our best road, for fear of the enemy, for our chief businesse thither was to find them out, and the protection which it pleased God to afford us all along in so many combats in going, was cause to make us hope that the same providence would vouchsafe to guide us as we should be returning. That there was no doubt but the road which I proposed unto them, considered simply in it self, was, not without comparison, the better, and the more expedit to saile out of the Mediterranean sea, and gain the Ocean, because said I, that although we have the briezes from off the
earth

earth as long as we were upon the coasts of *Syria*, and *Egypt*, we shall not have them at all while we saile upon the coasts of *Lybia*, where there are those fearfull sands which they call the *Syrtes*, which are of a great extent, the said coast having no humidity, for there is neither tree nor herb grows there, for there is nought else but moving sands which covered and enterred heretofore at one glut the puissant Army of King *Cambyfes*. Now where there is no humidity, the Sun cannot attract to make a wind, so that we shall never find there, specially in Sommer time, any other wind but that Regular wind which blows from East to West, according to the course of the Sun, who is the father of winds, unlesse some extraordinary happen, either from the coast of *Italy*, which lies Northward, or from the bottom of *Ethiopia*, where the Mountains of the Moon are, and the source of the Cataracts of *Nile*: therefore if we were neer the *Syrtes*, the winds of *Italy* would be most dangerous unto

us, and expose us to shipwrack. I reasond so, according to natural causes, while they of my Councel of war kept themselves firm to their experience; which was the cause that I would do nothing against the unanimous sense of all, for although the disposing, and resolution of all things depended absolutely upon my self, yet I thought I might be justly accused of rashnesse or willfulnesse, if I should prefer my own advise before that of all the rest: so we took that course, and went happily as far as the Syrtes of *Lybia*: but there our land breezes failed us, and for seven and thirty dayes we had no other but a few gentle Zephirs, which came from the West, whither we were steering our course. We were constrained to keep at anchor all that time, with a great deal of apprehensions of fear, that the wind might come from the North, accompanied with a tempest, for if that had happened, we had been all lost, because our anchors had not been able to hold among those moving sands,

sands, for under water they are of the same nature as they are upon dry land, and so we might be in danger to be shipwrackt upon that coast. But God Almighty, who hath been pleased I should have the honour to wait upon you this day, did deliver me from that danger. And at the end of seven and thirty dayes, we observed the course of the clouds very high, which came from Southeast, at first but slowly, but by degrees faster and faster, insomuch, that in the compasse of two dayes, the wind which was forming it self a great way off in *Ethiopia*, came in a tempest to the place where we rid at anchor, and lead us to the place whither we intended to go; but the force of it was broken before, coming so long a distance.

Out of this Discourse we may infer, and conclude, that every where wheresoever there is any wind, there be also some small bodies, or atoms, which are drawn from the bodiess, which lye in the bodies, whence they come, by the virtue of the Sun,

and of Light, and that in effect this wind is nothing else but the said atomes agitated, and thrust on by a kind of impetuosity; and so the winds do partake of the qualities whence they come, as if they come from the South, they are hot, if from the North they are cold, if from the Earth alone they are dry; if from the Marine, or Sea-side, they are humid and moist; if from places which produce aromatical substances, they are odoriferous, wholsome and pleasing: As they say who come from *Arabia Felix*, which produceth Spices, Perfumes, and Gommess, of sweet favour, or that which comes from *Fontenay*, and *Vauguier* at *Paris*, in the season of Roses, which is all perfumed: as on the contrary, those winds that come from stinking places, as from the sulphureous soil of *Pozzuolo*, do smell ill: as also those that come from infected places, bring the contagion along with them.

My third Principle shall be, that the Air is full throughout with small bodies or atomes, or rather that
which

which we call our air, is no other than a mixture, or confusion of such atomes, wherein the aerial parts do predominate.

It is well known, that in nature there cannot be actually found any pure element, without being blended with others, for the outward fire, and the light acting one way, and the internal fire of every body pushing on another way, causeth this marvailous mixture of all things in all things. Within that huge extent, where we place the air, there is sufficient space, and liberty enough to make such a mixture, which Experience, as well as Reason, doth confirm. I have seen little Vipers, as soon as they came from the eggs, where they were ingendred, being not yet an inch long; which, having conserved them in a large gourd, covered with paper tyed round about, that they might not get out, but little holes being made with pins, that the air might enter, they encreased in substance, and bignesse so prodigioussly in six, eight, or ten moneths,

months, that it is incredible, and more sensibly, during the season of the equinoxes, then, when the air is fuller of those æthereal, and balsamical atomes, which gave them their balsamick virtue, which they drew for their nouriture.

Hence it came that the *Cosmopolites* had reason to say, *Est in aere occultus vita cibus*. There is a hidden food of life in the air. These small Vipers had but the air onely for their sustenance, neverthelesse by this thin viand, they came in less than a year to a foot long, and proportionably big and heavy, Vitriol, Salt-peter, and some other substances, do augment in the same manner, onely by attraction of air.

I remember, that upon some occasion, seventeen or eighteen years ago, I had occasion to use a pound of oil of tartar; it was at *Paris*, where I had then no Operatory. Then I desired *Monsieur Ferrier*, a man universally known by all such that are curious, to make me some, for he had none then ready made, but

but did it expreffely for me, and for the calcination of tartar, twenty pound may be as eafily made as two, without encrease of charge, therefore he took occafion hereby to make a quantity for his own ufe. When he brought it me, the oil did fmell fo ftrong of the Rose, that I complained that he fhould mingle it with that water, in regard I had defired him to do it purely, by expofing it to the humid air, for I verily thought that he had diffolved the falt of tartar in Rose-water; he fwore unto me that he had not mingled it with any liquor, but that he had left the tartar calcind within his Cellar, to diffolve of it felf. It was then in the feafon of Roses, therefore it feems that the air being then full of the atomes, which come from the Roses; and being changed into water by the powerful attraction of the falt of tartar, their fmell became very fenfible in the place where they were gathered; as the beams of the Sun do burn, being crowded together in a burning glaffe.

There

There happened also another marvellous thing, touching this oyl of tartar, which may serve to prove a proposition, which we have not yet touched, but not to interrupt the course of the story; I will tell it you by way of advance. It was, that as the season of Roses was passed, the smell of the Rose did vanish away from the said oil of tartar, so that in three or four moneths it was quite gone. But we were much surprized, when the next year the said odor of Roses returned as strong as ever it did, and so went away again towards winter, which course it still observes. Which made *Monsieur Ferrier* to keep it as a singular rarity, and the last Summer I found the effect in his house.

We have in *London* an unlucky, and troublesome confirmation of this doctrine, for the air useth to be full of such atomes. The material then whereof they make fire in that great City, is commonly of pit coal, which is brought from *Newcastle*, or *Scotland*. This cole hath in it a great quantity

quantity of volatil salt very sharp, which being carried on by the smoak useth to dissipate it self, and fill the air, wherewith it doth so incorporate, that although we do not see it, yet we find the effects, for it spoiles beds, Tapistries, and other household stuffs, that are of any beautiful fair colour, for the fuliginous air doth tarnish it by degrees : and although one should lock up his Chamber, and come not thither a good while, and keep it never so clean, yet at his returne, he will find a black kind of thin soot cover all his household-stuff, as we see in Mills, there is a white dust, as also in Bakers shops, which useth to whiten the walls, and sometimes gets into cubboards and chests. The said coal-soot also gets abroad, and fouls cloths upon hedges, as they are a drying, as also in the Spring time, the very leaves of trees are besooted therewith. Now, in regard that it is this air which the Kings draw for respiration among the inhabitants, therefore the flegme and spittle which comes from them,
is

is commonly blackish and fuliginous. Moreover the acrimony of this soot produceth another funestous effect, for it makes the people subject to inflammations, and by degrees to ulcerations in the lungs. It is so corrosive, and biting, that if one put gammons of bacon, or beef, or or any other flesh within the chimney, it so dries it up, that it spoiles it. Wherefore they who have weak lungs, quickly feel it, whence it comes to passe, that almost the one half of them who dye in *London*, dye of ptisical, and pulmonicall distempers, spitting commonly blood from their ulcerated lungs. But at the beginning of this malady, the remedy is very easie; It is but to send them to a place where the air is good: many do usually come to *Paris*, who have means to pay the charge of such a journey, and they commonly use to recover their healths in perfection. The same inconveniences are also, though the operations be not so strong in the City of *Liege*, where the common
people

people burn no other than pit coals, which they call *h ville*. *Paris* herself also, although the circumambient be passing good, yet is the subject to incommodities of that nature. The excessively stinking dirt and channels of that vast City, mingleth a great deal of ill allay with the purity of the air, stuffing it every where with corrupted atoms, which yet are not so pernicious as those of *London*. We find that the most neat and polished silver plate, exposed to the air, becomes in a short time livid, and foul, which proceeds from no other cause, then from those black atoms, the true colour of putrefaction which stick unto them. I know a person of quality, (and a singular friend of mine) who is lodged in a place, where on the one side a great many poor people do inhabit, where few Carts use to passe, and fewer Coaches: his neighbours behind his house empty their filth and ordures in the middle of the street, which useth hereby to be full of mounts of filth, which is used to
be

be carried away by Tombrells ; when they remove these ordures, you cannot imagine what a stench, and a kind of infectious air is smelt thereabout every where. The servants of my said friend, when this happens, use to cover their plate, and andirons of polished brasse, with other of their fairest household-stuff, with cotten, or course bayes, otherwise they would be all tarnished ; yet nothing hereof is seen within the air : yet these experiences do manifestly convince, that the air is stuffed with such atoms. I cannot omit to adde hereunto another experiment, which is, that we find by the effects ; how the rayes of the Moon are cold and moist. It is without controversie, that the luminous parts of those rayes come from the Sun, the Moon having no light at all within her, as her ecclipses bear witnesse, which happen when the earth is opposite twixt her and the Sun, which interposition hinders her to have light from his rayes. The beams then which come from the Moon,

Moon, are those of the Sun, who glancing upon her, reflect upon us, and so bring with them the atoms of that cold and humid star, who participate of the source whence they come : therefore if one should expose a hollow bason, or glasse, to assemble them, one shall find, that whereas those of the Sun do burn by such a conjuncture, these clean contrary do refresh and moisten in a notable manner, leaving an aquatick, and viscuous glutining kind of sweat upon the glasse. One would think it were a folly that one should offer to wash his hands in a well polished silver bason, wherein there is not a drop of water, yet this may be done by the reflection of the Moon beams, onely, which will afford a competent humidity to do it, but they who have tryed this have found their hands, after they are wiped, to be much moister than usually : but this is an infallible way to take away warts from the hands, if it be often used.

Let

Let us then conclude out of these premises, and experiments, that the air is full of atoms, which are drawn from bodies, by means of the light which reflects thereon, or which fall out by the interior natural heat of those bodies, which drive them forth. It may haply seem impossible that there can be an emanation of so many small bodies, that should be spread up and down the air, and be so carried up and down, and so far by a continual flux, (if I may say so) and yet the body whence they come receives no diminution that is perceptible, though sometimes tis visible enough, as by the evaporations of the spirits of wine, musk, and other such volatil substances. But this objection will be null, and the two precedent principles will render themselves more credible, when we shall settle another, *viz.* That every body, be it never so little, is divisible *ad infinitum*, not that it hath infinite parts, for the contrary thereof may be demonstrated, but it is capable to be

be divided and subdivided into new parts, without ever coming to the end of the division. And it is in this sense that our Masters teach us that quantity is infinitely divisible. This is evident to him who shall consider with a profound imagination the essence, and the formal reason of quantity, which is nothing else but divisibility. But in regard that this speculation, is very subtle, and metaphysical, I will serve my self with some geometricall demonstrations to prove this truth, for they accommodate best with the imagination. *Euclide* doth teach us in the tenth Proposition of his sixth book, that if one take a short line, and another long one, and that the long be divided to divers equall parts twixt themselves; The little one may be divided also into as many equal parts among themselves, and every one of those parts also in others, and these last into so many more, and so consecutively, without being able ever to come to that which is not divisible.

But

But lets suppose (although it be impossible) that one might divide, and subdivide a line, so that at last we should come to an indivisible, and lets see what will come of it. I say then, that since the line doth resolve it self into indivisibles, she ought to be composed of them; lets see whether that may be verified. To which purpose I take three indivisibles, and to distinguish them, let them be A. B. C. for if three millions of indivisibles make a long line, three indivisibles will make a short one. I put them then in a rank. First, I put A, then B, so neer, that they touch one another: I say that B must necessarily possesse the same place as A, or that it doth not possesse it; if it doth possess the same place, they both together make no extension, and by the same reason, neither 3 nor 3000 will do it, but all the indivisibles will unite together, and the result of all shall be but onely one indivisible. It must be then that being not both in the same place, yet touching one another,

ther, one part of B must touch one part of A, and the other part toucheth it not. Then I adde the indivisible C, whereof one part shall touch a part of B, which touches not A, and by this means B is copulant, lying between A and C. to make the extension. To do this, you see that we must admit that B hath parts as the other two, which by your supposition are all indivisible, which being absurd, the supposition is impossible. But to render the matter yet more perspicuous, lets suppose that these three indivisibles, make one extension, and compose one line, the proposition already cited from *Euclide*, demonstrates that this line may be divided into thirty equal parts, or into as many as you please : insomuch that it must be granted that every one of these three indivisibles may be divided to three parts, which is point blank against the nature and definition of an indivisible. But without dividing into so many parts, *Euclide* shews by his tenth proposition of his first Element, that every line may be parted into two equal parts : but
 this

this being composed of indivisibles of unequal number, it must necessarily follow, that being parted into two, there must be an indivisible more on the one side than on the other, or that that of the middle be parted into two halves: insomuch, that he who denies that quantity may not be divided, *ad infinitum*, doth entangle himself in absurdities, and incomprehensible impossibilities. And on the contrary, he who assents unto it, will find it no impossibility, or inconvenient, that the atoms of all bodies, which are in the air, may be divided, stretcht and carryed to a marvailous distance. Our very senses make faith hereof in some sort: there is no body in the World, which we know of, so compact, so solid, and weighty as gold, yet nevertheless, to what a strange extent and division may it be brought unto. Lets take an ounce of this massy mettall, it shall be but a button as big as my fingers end. A beater of gold will make a thousand leaves or more of this ounce, one half of these leaves
shall

shall suffice to guild the whole surface of a lingot of silver, of three or four ounces : lets give this gilded lingot of silver to them, who prepare gold and silver thread to make lace, and let them draw it to the greatest length and subtilty they can, let them draw it to the thinness of a hair, and so this thread may be a quarter of a league long in extent, if not more : and in all this length there will not be the space of an atome which is not covered with gold. Behold a strange and marvailous dilatation of this half leaf : let us do the like to all the rest of the beaten gold, it will appear that by this means this small button of gold may be so extended, that it may reach from this City of *Montpellier* to *Paris*, and far beyond it : into how many million millions of atoms might not this gilded line be cut with small cisers.

Now, tis easie to comprehend that this extention, and divisibility made by such grosse instruments as hammers and cisers, is not comparable to that which is made by the light and

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rayes

rayes of the Sun. For it is certain, that if this gold may be drawn into such a great length by spindles, or wheels of iron, some of these parts may easily be carryed away by those winged Courriers we spoke of before, I mean, by the rayes that flie in a moment from the Sun to the earth.

If I did not fear it would prove tedious unto you by my prolixity, I would entertain you with the strange subtilty of little bodies, which issue forth from living bodies, by means whereof our dogs in *England* will pursue the scent of a mans steps, or of a beasts, many miles: and not onely so, but they will find in a great heap of stones that which a man hath touched with his hand: Therefore it must needs be, that upon the earth, or upon the stone, some material parts of the touched body remain, yet the body doth not sensibly diminish, no more than ambergrise, and the *Spanish* skins, which will send out of them an odour during a hundred years, without any

any diminution of skin or smell. In our Country they use to sow a whole field with one sort of grain, to wit, one year with barley, the next with wheat, the third with beans, and the fourth year they let it rest, and stercorize it, that it may recover its vigor by attraction of the vital spirit it receives from the air, and so plow it up again after the same degrees. Now, the year that the field is covered with beans, the passengers-by do use to smell at a good distance off, if the wind blow accordingly, the smell of the beans; if they be in flower: it is a smell that hath a suavity with it, but fading, and afterwards unpleasant, and heady. But the smell of Rosemary which comes from the coasts of *Spain*, goes far further. I have sailed by sea along those coasts divers times, and I have observed alwayes, that the Mariners know when they are within thirty or forty leagues of the Continent, (I do not exactly remember the distance) and they have this knowledge from the smell of the Rosemary,

which so abound in the fields of *Spain*; I have smelt it as sensibly, as if I had had a branch of Rosemary in my hand, and this was a day or two before we could discover land, tis true, the wind was in our faces, and came from the shore. Some Naturalists write that Vultures have come two or three hundred leagues off, by the smell of carrens, and dead bodies left in the field, after some bloody battle; and it was known that these birds came from a far off, because there is none useth to breed there : they have a quick smelling, and it must be that the rotten atoms of those dead karkases were transported by the air so far : and those birds having once caught the scent, they pursue it to the very source, and the nearer they come to that, the stronger it is.

We will conclude here that which we had to say touching the great extent of those little bodies, which by the mediation of the Sun beams, and of the light, use to issue forth out of all bodies that are composed
of

of Elements, who throng the air, and are carried a marvailous distance from the place, and bodies where they have their origen, and source, the proof, and explication of which things hath been the aime of my discourse hitherunto.

Now, my Lords, I must, if you please, make you see how these small bodies that so fill, and compose the air, are oftentimes drawn to a road altogether differing from that which their universal causes should make them hold; and it shall be our fifth principle.

One may remark within the course, and æconomy of nature, sundry sorts of attractions: as that of succion, or sucching, whereby I have seen a ball of lead at the bottom of a long steel exactly wrought, follow the air, which one sucked out of the mouth of a Canon, with that impetuosity, and strength, that it broke his teeth. The attraction of water or wine that is done by the instrument Scyphon is like to this, for by means of that, one liquor is

made to passe from one vessel into another, without changing any way the colour, or rising of the lees. There is another sort of attraction which is called magnetical, whereby the loadstone draws the iron. Another electrick, when the Jett-stone draws unto it straws. There is another of the Flame, when the smoke of a candle put out, draws the flame of that which burns hard by, and makes it descend to light that which is out. There is another of *Filtration*, when one humid body mounts upon a dry body, or when the contrary is done. Lastly, when the fire, or some hot body draws the air, and that which is mixed therewith.

We will treat here of the two first species of attraction, I have sufficiently spoken of the rest in another place. *Filtration* may seem to him who hath not attentively considered it, nor examined by what circumstances so hidden a secret of nature comes to passe, and to a person of a mean and limited understanding,

to

to be done by some occult virtue, or property, and will perswade himself, that within the Filtre, or straining instrument, there is some secret Sympathy, which makes water to mount up contrary to its natural motion.

But he who will examine the business, as it ought to be, observing all that is done, without omitting any circumstance, he will find there is nothing more natural, and that it is impossible it should be otherwise. And we must make the same judgement of all the profound mysteries, and hidden'st mysteries of nature: if one would take the pains to discover them, and search into them with judgement.

Behold then how *Filtration* is made, they use to put a long tounge of cloth, or cotten, or spongy matter, within an earthen pot of water or other liquor, and let hanging upon the brim of the pot a good part of the cloth, and one shall see the water presently mount up, and passe above the brink of the vessel,

and drop at the lower end of the piece of cloth, upon the ground, or within some vessel: and the Gardeners make use of this method to water their plants and flowers in Summer by soft degrees. As also the Apothecaries, and Chymists, to separate their liquors, from their dregs, and residences.

To comprehend the reason why the water ascends in that manner, let us neerly observe all that is done. That part of the cloth which is within the water, becomes wetted, to wit, it receives and imbibes the water through its spongy, and dry parts at first. This cloth swells in receiving the water, so two bodies joyned together, require more room than one of them would by it self. Let us consider this swelling, and augmented extension in the last thread of them which touch the water, viz. that on the superficies, which to be distinguished from the rest, let it be marked at the two ends, (as by a line) as with A. B. and the thread which immediately follows,

follows, and is above it, let it be C. D. and the following E. F. then with G. H. and so to the end of the toung: I say then that the thread A. B. dilating it self, and swelling by means of the water which enters twixt it fibres, or strings, approacheth by little and little to C. D. which is yet dry, because it toucheth not the water; but when A. B. is grown so grosse, and swelling, by reason of the water which enters, that it fills all the vacuity, and all the distance which lies twixt it, and C. D. as also that it presseth against C. D. by reason of its extension, which is greater than the space was betwixt them both, then it wets C. D. because the thread A. B. being compressed, the exterior part of the water which was in it, coming to be pushed on upon C. D. seeks there a place, and entreth within the threds, and wets them, in the same manner as at first the exterior, and highest part, became wet. C. D. being so wetted, it shall dilate it self as A. B. did, and consequently pressing against.

D. 5

gainst E. F. it cannot chuse but work the same effect in it, which before it had received by the swelling and dilatarion of A. B. and so by gentle degrees every thread wets its neighbour, untill the very last thread of cloth tounge. And it is not to be feared, that the continuity of the water will break, ascending this scale of chords, or that it will recoil backwards, for those little ladders so easy to be mounted render the ascent the more easie, and the woolly fibres of every thread, seem to reach their hands to help them up at every pace : and so the facility of getting up contremont, joyned with the fluidness of the water, and the nature of quantiry, which tends alwayes to the uniting of substances, and of bodies which it clothes, when there occures no other predominant cause to break, and divide it, causeth that the water keeps it self in one piece, and passeth above the brink of the pot. After that its voyage is made more easie, for it goes after its natural panching, alwayes downwards.

wards. And if the end of the cloth hangs lower without the pot, then the surface of the water within the pot, the water spills on the earth, or some vessel placed beneath, as we see that a heavier chord being hung upon a pully the longest, and heaviest falls upon the ground, and carrieth away the shortest, and lightest, making it passe above the pully. But if the outward end of the cloth which is without the pot were horizontal, with the surface of the water, and did hang no lower then it, the water would be immoveable : as the two sides of a balance, when theres equal weight in both the scales. And if one would powre out the water that is in the pot, in such sort that the superficies did grow lower than the end of the cloth : In that case the ascending water becoming more heavy than the descendant on the other side, without the pot, it would call back that which was gone out before, and was ready to fall, and would make it thrust on, and return to its former pace, and enter.

enter again into the pot, to mingle again with the water which lyes therein.

You see then this mystery, which at first was surprizing, displayed, and made as familiar and natural, as to see a stone fall down from the air. Tis true, that to make a demonstration thereof, by an exact, and compleat rigor, we must adde other circumstances, which we have done in another Discourse, wherein I expressly treated of this subject. But that which I now say is sufficient to give a tincture how this so notable an attraction is made.

The other attraction which comes by fire, which draws unto it the ambient air, with the smal bodies therein, is made thus;

The Fire acting according to its own nature, which to push on a continual river, or exhalation of its parts, from the center to the circumference, and out of its source, carrieth away with it the air which adjoynd, and sticking to it on all sides, as the water of a river trains
along.

along with it the earth of that channel or bed, through which it glides. For the air being humid, and the fire drye, they cannot do lesse than embrace, and hug one another. But there must a new air come from the places circumjacent, to fill the room of that which is carried away by the fire, otherwise there would a vacuity happen, which nature abhors. This new air remains not long in the place which it comes to fill, but the fire, who is in a continual carreer, and emanation of his parts, carries it presently with him, and draws the new air, and so there is a perpetual, and constant current of the air, as long as the action of fire continues. We dayly see the experience hereof, for if one makes a good fire in ones Chamber, it draws the air from the door, and windows, which though one would shut, yet there be crevices and holes for the air to enter, and coming near them, one shall hear a kind of whissing noise, which the air makes in pressing to enter, and tis the same cause that produceth

eeth the sound of the Organ and
 flute; and he who would stand be-
 tween the crevices, and the fire, he
 should find such an impetuosity of
 that artificial wind, that he would
 be ready to freeze, while he is ready
 to burn the tother side next the fire.
 And a candle of wax being held in
 this current of the wind, would melt
 by her flame blown against the wax,
 and waste away in a very short time:
 whereas if that candle stood in a
 calm place, that her flame might
 burn upward, it would last much
 longer. But if there be no passage
 whereby the air may enter into the
 Chamber, the one part then of the
 vapor of the wood which should
 have converted to flame, and so
 mounted up the funnel of the chim-
 ney descends downward against its
 nature, for to supply the defect of
 air within the said Chamber, and
 fills it with smoak, but at last the fire
 choaks, and extinguisheth for want
 of air. Whence it come to passe that
 the *Chymists* have reason to say,
 that the air is the life of the fire, as
 well.

well as other animals. But if one puts a bason, or vessel of water before the fire upon the hearth, there will be no smoke in the Chamber, although it be so close shut, that the air cannot enter, for the fire attracts parts of the water, which is a liquid substance, and easie to move out of its place, which aquatic parts rarifie themselves into air, and thereby perform the functions of the air. This is more evidently seen if the Chamber be little, for then the air which is there penned in, is sooner raised up, and carried away. And by reason of this attraction, they use to make great fires, where there are hushold-stuff, of men that died of the Pestilence to disinfect them. For by this inondation of air which is drawn, the fire doth as it were sweep the walls, the planks, with other places of the Chamber, and takes away those little putrified, sharp, corrosive, and venemous bodies, which were the infections that adhered unto it, drawing them into the fire, where they are partly burnt, and.

and partly sent up into the chimney, accompanied with the atoms of the fire, and the smoke. It is for this reason that the great *Hippocrates*, which groped so far into the secrets of Nature, disinfects, and freed from the plague a whole Province, or entire Region, by causing them to make great fires every where.

Now, this manner of attraction is made, not onely by a simple fire, but by that which partakes of it, *viz.* by the heated substances: and that which is the reason and cause of the one, is also the cause of the other. For the spirits, or ignited parts evaporating from such a substance, or hot body, carry away with them the adjacent air, which ought necessarily to be nourished by some other air, or by some matter which keeps the place of the air, as we have spoken of the bason, and tub of water put before the fire to hinder smoke. It is upon this foundation that Physicians do ordain the hot application of Pigeons, or young dogs, or some other hot animals, to the

the soles of the feet, or the hand-wrists, or the stomacks, or navills of their patients, to extract out of their bodies the wind, or ill vapors which infect them; and in time of contagion, or universal infection of the air, pigeons, cats, dogs, with other hot animals, use to be killed, which make continually a great transpiration of evaporation of spirits, because the air by those attractions it makes, taking the room of the spirits, which issue forth of evaporation, the pestiferous atoms which are scattered in the air, and accompany it; use to stick to their feathers, skins, or fures.

And for the same reason we see that bread coming hot from the Oven, draws unto it the must of the cask, which spoiles the wine, if they put it hot upon the bung. And that onions, & such hot bodies which perpetually exhale unto them the fiery parts, which appears by the strength of their smell, are quickly taken with infectious airs, if they be exposed unto them, which is one of the
signes.

signes to know whether the whole masse of the air be universally infected.

And one might reduce to this head the great attraction of air, which is made by calcind bodies and particularly by tartar, all ignited by the violent action of the fire upon it, which is heaped together, and bodified among his salt: for I have observed that it attracts unto it nine times more air than it weighs it self. For if one should expose to the air a pound of salt of tartar well calcind, and burnt, it will afford you ten pound, of good oyl of tartar, drawing unto it, and so bodifying the circumjacent air, and that where-with tis mingled; as it befell that oyl of tartar which *Monsieur Ferrier* made me, whereof I spake before. But me thinks that all this is but little compared to the attraction of air, which was made by the body of a certain Nunne at Rome, whereof *Petrus Servius*, *Urban* the Eighth's Phyfitian makes mention in a book which he hath published, touching the marvailous

marvailous accidents which he observed in his time. Had I not such a vouchy, I durst not produce this History, although the Nunne herself did cnnfirm it unto me, and that a good number of Doctors, of the faculty of Physick at Rome, did assure me of the truth thereof : There was a Nunne, that by excesse of fasting, of watchings, and mental orisons, was so heated in her body, that she seemed to be all on fire, and her bones dryed up, and calcind : This heat then, this internal fire drawing the air so powerfully : this air did incorporate within her body, as it useth to do in salt of Tartar, and the passages being all open, it got to those parts, where there is most serosity, which is the bladder, and thence she rendred it in water among her urine, and that in an incredible quantity, for she voided during some weeks more, than two hundred pounds of water every four and twenty hours. With this notable example I will put an end to the experiments, I have urged

ged to prove and explicate the attraction which is made of air, by hot and ignited bodies, which are of the nature of fire.

My sixth Principle shall be, that when fire, or some hot body attracts the air, and that which is within the air, if it happens that within that air there be found some dispersed atoms of the same nature, with the body which draws them, the attraction of such atoms is made more powerfully, then if they were bodies of a different nature, and these atoms do stay, stick, and mingle with more willingnesse with the body which draws them. The reason hereof is the resemblance, and Sympathy they have one with the other. If I should not explicate wherein this resemblance consisted, I should expose my self to the same censure and blame, as that which I taxed at the beginning of my Discourse, touching those who speak but lightly and vulgarly of the Powder of Sympathy, and such marvels of nature. But when I shal have

have cleared that which I contend for by such a resemblance and conveniency, I hope then you will rest satisfied. I could make you see that there are many sorts of resemblances which cause an union between bodies, but I will content my self to speak here onely three signall ones.

The first resemblance shall be touching weight, whereby bodies of the same degree of heavinesse do assemble together, the reason whereof is evident, for if one body were more light, it would occupy a higher situation than the heavier body, as on the contrary, if a body were more weighty, it would descend lower than that which is lesse heavy, but both having the same degree of heavinesse, they keep company together in *equilibrio*, as one may see by experience in this gentile example, which some curious spirits use to produce, for to make us understand how the four elements are situated one above the other, according to their weight, and heavinesse. They use

use to put in a viall the spirit of wine tinctur'd with red, to represent the fire; the spirit of turpentine tinctured with blew for the air, the spirit of water tinctured with green, to represent the element of water; And to represent the earth, the Powder of some solid mettall enamell'd; you see them one upon the other without mixing, and if you shake them together by a violent agitation, you shall see a Chaos, such a confusion, that it will seem ther's no particular atomes that belong to any of those bodies, they are so huddled pell mell altogether. But cease this agitation, and you shall see presently every one of these four substances go to its naturall place, calling again, and labouring to unite all their atoms in one distinct masse, that you shall see no mixture at all.

The second resemblance of bodies which draw one another, and unite, is among them, which are of the same degree of rarity and density. The nature and effect of Quantity
is

is to reduce to unity all things which it finds, if there interpose not some other stronger power, (as the differing substantiall forme, which doth multiply it) do not hinder. And the reason of that is evident, for the essence of *Quantity* is a divisibility, or capacity to be divided, which is as much to say, as to make it Many, whence it may be inferred that *Quantity* it self is not many, therefore she is of her self, and in her own nature, a continued extension: seeing then that the nature of *Quantity* in general tends to unity, and continuity, the first differences of *Quantity*, which are rarity, and density, must produce the same effect of unity, and continuity in those bodies which convene in the same degree with them. For proof whereof, we find that water doth unite, and incorporate it self, strongly, and easily with water, oil with oil, the spirit of wine with spirit of wine, but water and oil can hardly unite, nor mercury with the spirit of wine, and other bodies of differing density, and tenuity.

The

The third resemblance of bodies which unites and keeps them strongly together, is that of Figure: I will not serve my self here with the ingenious conceit of a great personage, who holds that the continuity of bodies results from some small hookings or claspings, which keeps them together, and are differing in bodies of a differing nature. But not to extend my self too diffusively in every particularity, I will say in grosse, as an apparent thing, that every kind of body affects a particular figure. We see it plainly in the severall sorts of salt, peece, and stamp them separately, dissolve, coagulate, and change them as long as you please, they come again alwayes to their own natural figure, after every dissolution, and coagulation. The ordinary salt doth form it self alwayes in cubes of foursquare faces, salt-peter in formes of six faces: *Armoniac* salt in *Hexagons* of six points, as the snow doth, which is sexangulary. Wherunto Mr. *Davison* attributes the pentagonary figure

gure of every one of those stones which were found in the bladder of *Monsieur Peletier*, to the number of fourscore; for the same immediate efficient cause, which is the bladder, had imprinted its action both within the stones, and the salt of the urine. The Distillators observe, that if they powre upon the dead head of some distillation, the water which was distilled it imbibes it, and re-unites incontinently, whereas if one would powre any other water of an heterogeneous body, it swims on the top, and incorporates with much difficulty. The reason is, that the distill'd water which seems to be an homogeneous body, yet tis composed of small bodies of discrepant figures, as the *Chymists* do plainly demonstrate, and these atomes being chased by the action of fire, out of their own Chambers, or as from the beds, which appropriated unto them by an exact justnesse, when they come back to their ancient habitations, viz. to the pores which are left in the dead heads, they accommo-

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date

date themselves, and amiably rejoyne and comensurate together. The same happens when it rains after a long drouth; for the earth immediately drinks up the water, which had been drawn up by the Sun, whereas any other strange liquor would enter with some difficulty. Now, that there are differing pores in bodies which seem to be homogeneous, *Monsieur Gassendi* affirms it, and undertakes to prove it by the dissolution of salts of differing natures in common water, when saies he to this effect, that when you have dissolved common salt, as much as it can bear, if you put onely a scruple more, it will leave it entire in the bottom, as if it were sand, or playster, neverthelesse, it will dissolve a good quantity of salt-peter, and though it toucheth not this salt, it will dissolve as much of Armoniacall salt, and so others of different figures. In so much as I have observed elsewhere, we see plainly by the æconomy of Nature, that bodies of the same figure use to mingle more strongly,

strongly, and unite themselves with more facility, which is the reason why those that make a strong glue to glue together broken pots of porcelain, or chrystal, or such stuff, do alwayes mingle with the glue the powder of that body, which they endeavour to raccomodate. And the Goldsmiths themselves, when they go about to solder together pieces of gold, or of silver, they mingle those bodies alwayes in their own dust.

Having hitherto run through the reasons and causes why bodies of the same nature, draw one to another with greater facility and force than others, and why they unite with more promptitude, lets now see according to our method, how experience confirms this discourse, for in natural things we must have recourse, *en dernier ressort*, to experience. And all reasoning that is not supported so, ought to be repudiated, or at least suspected to be illegitimate.

It is an ordinary thing, when one

finds himself burnt as in the hand, he holds it a good while as near the fire as he can, and by this means the ignited atomes of the fire, and of the hand mingling together, and drawing one another, and the stronger of the two, which are those of the fire, having the mastery, the hand finds it self much eased of the inflammation which it suffered. Tis an ordinary remedy, though a nasty one, that they who have ill breaths, hold their mouths open at the mouth of a privy, as long as they can, and by the reiteration of this remedy, they find themselves cured at last, the greater stink of the privy drawing unto it, and carrying away the lesse, which is that of the mouth. They who have been pricked, or bit by a Viper, or Scorpion, hold over the bitten, or pricked place, the head of a Viper or Scorpion bruised, and by this means the poyson, by a kind of filtration way, went on to gain the heart of the party, returns back to its principles, and so leaves the party well recovered. In time of
common

common contagion, they use to carry about them the powder of a toad, and sometimes a living toad or spider shut up in a box; or else they carry arsnick, or some other venomous substance, which draws unto it the contagious air, which otherwise would infect the party: and the same powder of toad draws unto it the poison of a pestilential cole. The scurf or farcy is a venemous, and contagious humor within the body of a horse, hang a toad about the neck of the horse, in a little bag, and he will be cured infallibly; the toad, which is the stronger poyson, drawing to it the venome which was within the horse. Make water to evaporate out of a stove, or other room, close shut, if there be nothing that draws this vapor, it will stick to the walls of the stove, and as it cools, it recondenseth there into water: but if you put a bason or buccquet full of water into any part of the stove, it will attract all the vapor which filled the chamber, and so doing, no part of the wall will be

wetted. If you dissolve Mercury, which resolving into smoke, doth passe into the recipient, put into the head of the limbeck a little thereof, and all the mercury in the limbeck will gather there, and nothing will passe into the recipient. If you distill the spirit of salt, or of vitriol, or the baume of sulphur, and leaving the passage free betwixt the spirit, and the dead head, whence it issued forth, the spirits will return to the dead head, which being fixt, and not able to mount up, draws them unto it.

In our Country, and I think tis so used here, they use to make provision for all the year of Venison Pasties, at the season that their flesh is best, and most savory, which is in July, and August, they bake it in earthen pots, or Rye crust, after they have well seasoned it with salt and spices, and being cold, they cover it 6 fingers deep with fresh butter, that the air may not enter. Neverthelesse tis observed after all the diligence that one can make, that when the living
beasts,

beasts, which are of the same nature, and kind, are in Rut, the flesh which is in the pot smells very rank, and very much changed, having a stronger taste, because of the spirits which come at this season from the living beasts, which spirits are attracted naturally by the dead flesh: and then one hath much to do to preserve it from being quite spoiled: but the said season being passed, there is no danger, or difficulty to keep it gustfull all the year long.

The wine Marchants observe in this Country, and every where elsewhere there is wine, that during the season that the Vines are in flower, the wine which is in the Cellar, makes a kind of fermentation, and pusheth forth a little white lee, (which I think they call the mother of the wine) upon the surface of the wine, which continueth in a kind of disorder, untill the flowers of the Vines be fallen, and then this agitation or fermentation being ceased, all the wine returns to the same state it was in before.

Nor is it now that this observation hath been made, but besides divers others, who speak hereof, St. Ephrem the Syrian, in his last Will and Testament, some 1300 years ago, reports this very same circumstance of wine, which sensibly suffers an agitation & fermentation within the vessel the same time, that the Vines seem to exhale their spirits in the Vineyards. He makes use of the same example in dry onions, which bud in the house, when those in the garden begin to come out of the earth, and to embalm the air with their spirits; shewing thereby by these known examples of nature, the communication between living persons, and the souls of the dead. Now, those winy spirits that issue from the buds and flowers, filling the air, (as the spirits of Rosemary use to do in *Spain*) they are drawn into the vessels by the connatural, & attractive virtue of the wine within: and these new volatil spirits entring, do excite the most fixed spirits of the wine, and so cause a fermentation, as if one should powre therein new or sweet wine; for

in all fermentations, there is a separation made of the terrestrial parts from the oily, which come out of the essential parts, and so the lightest mount up to the superficies, the heaviest become tartar lees, which fall into the bottom. But in this season, if one be not very careful to keep the wine in a proper, and temperate place, and keep the cask full, and well bungd, and use other endeavours, which are ordinary with Wine Coupers, one runs a hazard to have his wine impaired, or quite spoiled, because that the volatil spirits coming to evaporate themselves, they carry away with them the spirits of the wine that is barrelled by exciting them, and mingling with them. As in like manner the oil of tartar, which *Monsieur Ferrier* made, attracting to it self the volatil spirits of Roses, diffused in the air in their season, suffered such a fermentation, and made every year new attractions of the like spirits, in regard of the affinity which this oil had contracted with those spirits at its first

birth, whereof it was deprived as the season passed. And tis for the very same reason that a table cloath, or napkin, spotted with mulberries, or red wine, is easily whitened again at the season that the plants do flower; whereas at any other time these spots can hardly be washed away. But tis not onely in *France* and other places, where Vines are near Cellars of wine that this fermentation happens: in *England*, where we have not Vines enough to make wine, the same thing is observed, yea, and some particularities beyond. Although they make no wine in our Country to any considerable proportion, yet we have wine there in great abundance, which is brought over by the Merchants: It useth to come principally from three places, viz. from the *Canaries*, from *Spain*, from *Gascony*. Now, these Regions being under different degrees and climates in point of latitude, and consequently one Country is hotter or colder than the other; or that the same vegetables grow to

maturity

maturity sooner, it comes to passe that the foresaid fermentation of our differing wines advanceth it self more or lesse, according as the vines whence they proceed, do bud and flower in the region where they grow : it being consencaneous to reason, that every sort of wine attracts more willingly the spirits of those Vines whence they come, than of any other.

I cannot forbear but I must make some digression here, to unfold some other effects of nature, which we see often, and are not lesse curious than the most principall which we treat of, and will seem to be derived from more obscure causes, notwithstanding in many circumstances they depend on the same principles, and in many much differing, It is touching moles or marks which happen to infants when their mothers during the time of their pregnancy, have longed after some particular things. To proceed after my accustomed manner: I will fall to exemplifie. A Lady of high condition, which many of
this

this Assembly know, at least by reputation, hath upon her neck the figure of a Mulberry, as exactly as any Painter, or Sculptor can possibly represent one, for it bears not onely the colour, but the just proportion of a Mulberry, and is as it were embossed upon her flesh. The Mother of this Lady being with child, she had a great mind to eat some Mulberries, and her imagination being satisfied, one of them casually fell upon her neck, the sanguin juyce whereof was soon wiped off, and she felt nothing at that time. The child being born, the perfect figure of a Mulberry was seen upon her neck, in the same place where it fell upon the mothers, and every yeer, in Mulberry-season, this impression, or rather excrecence of flesh did swell, grow big, and itch.

Another Maid which had the like mark of a Strawberry, was more incommodated therewith, for it inflamed and itched in Strawberry season, but it broke like an Impostume, whence issued forth a sharp corrosive

corrosive humor. But a skillfull Surgeon took all away to the very roots, by cauterising ; so that since that time she never felt any pain or change in that place which did incommode her so much, it being become a simple scar.

Now then, lets endeavour to penetrate if we can the causes, and reasons, of these marvailous effects. But to go the more handsomly to work, that within the actions of all our senses, there is a material and corporal participation, *viz.* that some atoms of the body operate upon the senses, enter into their organs, which serve them as funnels, to conduct and carry them to the brain, and to the imagination. This appears evidently in vapours and savours. And concerning the hearing, the exterior air being agitated, doth cause a movement within the membrane, or tympane of the ear, which gives the like shaking to the hammer which is tyed thereunto, who beating upon his anvil, caused a reciprocal motion in the air, which is shut within
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the errannies of the ear, and this is that which we usually call sound.

Touching the sight, tis evident that the Light reflecting upon the body, it sees enters into the eyes, and cannot avoid, but it must bring with it some emanations of the body whereon it reflects, as we have established in the second Principle.

It remains now to shew that the like is made within the grossest of our senses, which is the Touch or Feeling: For if it be true, as we have shewn, that every body sends forth a continuall emanation of atomes out of it self, it makes much for the assertion of this truth. But to render this truth yet more manifest, and take away all possibility of doubt, I will demonstrate evidently to the eye, whereof every one may make an experience in a quarter of an hour, if he be so curious, yea, in a lesse compasse of time.

I believe you know the notable affinity which is betwixt gold and quick-

quick-silver; if the gold toucheth mercury, it sticks close unto it, and whitens it in such sort, that it scarce appeareth gold, but silver onely; if you cast this blanch'd gold into the fire, the heat chaseth, and drives away the mercury, and the gold returns to its former colour, but if you repeat this often, the gold calcines, and then you may pound, and reduce it to powder.

Now there is no dissolvant in the World that can well calcine, and burn the body of gold, but quick-silver. I speak of that which is already formed by nature, without engaging my self to speak of that which is spoken of among the secrets of Philosophy. Take then a spoonfull of mercury in some porcelan, or other dish, and finger it with one hand, if you have a ring of gold on the other, it will become white, and covered with mercury, though it doth not any way touch it. Moreover, if you put a leaf of gold, or a crown of gold in your mouth, and if you put but one of your toes in a
 thing

thing where mercury is, the gold which is in your mouth, though you shut up your lips never so close, shall turn white, and laden with mercury; then if you put this gold in the fire to make all the mercury evaporate, and that you reiterate the same thing, your gold will be calcind, as if you had by amalgamation joyned mercury therewith corporally. And all this will yet be done more speedily, and effectually, if in lieu of common mercury, you make use of mercury of antimony, which is much hotter, and more penetrating, and though you drive it away by force of fire, it will carry away with it a good quantity of the substance of the gold; in such sort, that reiterating often, this operation, there will no more gold remain for you to continue your experiments. If then that cold mercury doth so penetrate the whole body, we ought not to think it strange, that subtile atoms of fruit composed of many ignited parts will passe with more facility and quicknesse. I will further make
you.

you see how such spirits and emanations, do suddenly also penetrate steel, though it be a substance so compacted, cold, and hard, that the said atoms may keep their residence there many moneths and yeers. Within a living body, such as is mans, the intern spirits do aid, and contribute much facility to the spirits that are without, such as those of fruits are, to make their journey the more easie to the brain. The great Architect of nature in the fabrick of human body, the masterpiece of corporal nature, hath placed there some intern spirits, to serve as centinells, to bring their discoveries to their General, viz. to the imagination, who is as it were the Mistresse of the whole family, whereby a man might know, and understand what is done without the Kingdom, within the great World; and that it might shun what is noxious, and seek after that which is profitable. For these sentinels, or intern spirits, with all the inhabitants of the sensitive organs are not able

to judge alone : insomuch , that if the imagination or thought be distracted strongly to some object, these intern spirits do not know whether a man hath drunk the wine which he hath swallowed, if perchance seeing a person who comes to salute him, he fixeth his eye upon him all the while, or if he listens attentively to the air of some melodious song, or musically instrument, for the inward spirits bring all their acquisitions to the imagination ; and if she be not more strongly bent upon another object, she falls a forming certain Idzas and Images, because that the atomes from without being conveyed by these intern spirits, to our imagination erect there the like edifice, or else a model in short resembling the great body whence they come forth. And if our imagination hath no more use of those significative atoms for the present, she rangeth them in some proper place, within her Magazin, which is the memory ; where she can repeal, and rebuke them when she pleaseth.

pleaseth. And if there be any object which causeth some emotions in the imagination, and toucheth her more near than common objects use to do, she sends back her sentinels, the internal spirits, upon the confines, to bring her more particular news. And thence it proceeds that a man being surprized by some particular man, or other object, who hath already some eminent place in his imagination, be it of desire, or aversion, then that man suddenly changeth colour, and becomes red, then pale, then red again at divers times, according as the Ministers, which are those intern spirits, do go quick or slow towards their object, then they return with their reports to their Mistress, which is the imagination. But besides these passages we speak of, which go from the brain to the external parts of the body, by the ministry of the nerves; there is also a great road from the brain to the heart, by which the vital spirits do ascend from the heart to the brain, to be animated, and hereby the imagination sends
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unto the heart, those atoms which she hath received from some external object, and there they make an ebullition betwixt the vital spirits, which according to the intervening atoms, either cause a dilatation of the heart, and so gladden it, or they do contract it, so sadden it, and these two differing, and contrary actions are the first general effects, whence proceed afterwards the particular passions, which require not that I pursue them too far in this place, having done it more particularly else where, and more expressly.

Besides these passages, which are common to all men and women, there is another that's peculiar only to females, which is, from the brain to the matrix, whereby it often falls out that such violent vapours mount up to the brain, and those in so great a number, that they often hinder the operation of the brain, and of the imagination, causing convulsions and follies, with other strange accidents, and by the same channel the
spirits

spirits or atoms passe with a greater liberty, and swiftnesse to the womb or matrix when the case requires.

Now lets consider how the strong imagination of one man doth marvailously act upon another man, who hath it more feeble and passive. We see dayly, that if a person gape, those who see him gaping, are excited to do the same. If one come perchance to converse with persons that are subject to excesse of laughter, one can hardly forbear laughing, although one doth not know the cause why they laugh. If one should enter into a house, where all the World is sad, he becomes melancholy, for as one said, *Si vis me flere dolendum est primum ipsi tibi*, Women and Children being very moist and passive, are most susceptible of this unpleasing contagion of the imagination. I have known a very melancholy woman, which was subject to the disease called the Mother, and while she continued in that mood, she thought her self possessed, and did

did strange things, which among those that knew not the cause, passed for supernatural effects, and of one possessed by the ill spirit: she was a person of quality, and all this happened, because of the deep resentment she had for the death of her Husband: She had attending her four or five young Gentlewomen, whereof some were her Kinswomen, and others served her as Chambermaids. All these came to be possessed as she was, and did prodigious actions. These young Maids were separated from her sight, and communication, and as they had not yet contracted such profound roots of the evil, they came to be all cured by their absence; and this Lady was also cured afterwards by a Physician, which purged the atrabilious humors, and restored her matrix to its former estate, there was neither imposture, or dissimulation in this.

I could make a notable recital of such passions that happened to the Nunnies at *Leden*, but having done

it

it in a particular Discourse at my return from that Country, where I as exactly as I could discussed the point, I will forbear speaking thereof at this time, otherwise then to pray you to remember, that when two Lutes, or two Harps, near one another, both set to the same tune, if you touch the strings of the one, the other consonant harp will sound at the same time, though no body touch it, whereof *Galileo* hath ingeniously rendred the reason.

Now, to make application to our purpose of all that hath been produced to this effect, I say that since it is impossible that two several persons should be so near one another, as the mother and the infant when he lies in the womb, one may thence conclude, That all the effects of a strong and vehement imagination working upon another more feeble, passive, and tender, ought to be more efficacious in the Mother acting upon her son, then when the imaginations of other persons add upon

upon them who are nothing to them. And as it is impossible for a Master of Musick, let him be never so expert, and exact, can tune so perfectly any two Harps, as the great Master of the Universe, doth the two bodies of the Mother and the Infant, so it follows by consequence, that the concussion of the principal string of the Mothers, which is the imagination, ought to produce a greater shaking of the consonant string in the Infant, to wit, his imagination, then the string of a Lute being touched, upon the consonant strings of another: and when the mother sends spirits to some parts of her body, the like must be sent to some part of the childs body.

Now, lets call to memory how the imagination of the mother is full of corporal atoms, which come from the Mulberry, or Strawberry, which fell upon the neck, and brest, and her imagination being then surprized with an emotion, by the suddenesse of the accident, it follows necessarily that she must send some of these

these atomes also to the brain of the Infant, and so to the same part of the body, where she took the stain first, twixt which and the brain, there passe such frequent and speedy messengers, as we have formerly set forth. The Infant also on his part, who hath his parts also tuned in an harmonious consonance with the mothers, cannot faile to observe the same movement of spirits twixt his imagination, and his neck, and his brest, as the mother did twixt hers: and these spirits being accompanied with atoms of the Mulberry, which the mother conveyed to his imagination, they make a profound impression, and lasting mark, upon his delicate skin, whereas that of the mothers was more hard. As if one should let fly a Pistol charged with powder, onely against a marble, the powder doth nothing but sully it a little, which may quickly be rubd off; but if one should discharge such a Pistol at a mans face, the graines of the powder would pierce the skin, & so stick and dwell there all his life time, and

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make

make themselves known by their black-blewish colour, which they alwayes conserve.

In like manner the small grains or atomes of the fruit which passed from the mothers neck to the imagination of the Infant, and thence to the same place upon his skin, do lodge, and continually dwell there for the future, and serve as a source to draw the atoms of the like fruit dispersed in the air, according to their season, (as the wine in the Tonne draws unto it the volatil spirits of the Vines) and in drawing them the part of the skin, where they reside ferments, swells, eats, and inflames, and sometimes breaks. But to render yet more considerable, these marvalous marks of longing, (since we are upon this subject) I cannot forbear to touch also another circumstance, which might seem at first to be a miracle of nature, beyond the causes which I have alledged: but having well eventilated it, we shall absolutely find that it depends upon the same principles.

It

It is, that oftentimes it falls out, that the impression of the thing desired, or longed for, by the mother, falls upon the child, although she touch it not, or that it falls upon her body. Tis sufficient that some other thing do fall, or unexpectedly beat upon some part of the woman with child, while such a longing doth predominate in her imagination, and the figure of the thing so long desired after, will be found at last imprinted upon the same part of the body of the Infant, as it was upon the mother who received the blow. The reason hereof is that the atoms of the thing longed for, being raised up by the light, go to the brain of the big mother, through the channel of the eyes, as well as other more material atomes, proceeding from the corporal touch, would go thither by the guidance of the nerves. And of these petty bodies, the mother forms in her imagination a complete model of that, whence they flow forth by way of emanation. But if the women be not attarchd but inwardly,

these atomes which are in her imagination, make no other voyage than to her heart, and thence to the imagination, and to the heart of the Infant, and so cause a reinforcement of the passion in them both, which may be moved to such a violent impetuosity, that if the mother doth not enjoy her longd-for object, this passion may cause the destruction both of the one and the other, at least prejudice her notably in their health, and so make a great change in the body. In the mean time, if some unlooked for blow surprize the mother in any part of her body, the spirits which reside in the brain are immediately sent thither by her imagination, as it happens often in this case of longing. But in all other such sudden surprisals either among women or men, these spirits are transported with the more impetuosity, the more the passion is violent. As when one loves another passionately, he runnes suddenly to the dore when any knocks, or that. --- *Hylax in limine latrat,*
hoping

hoping alwayes tis the party which entirely occupyes his thoughts, (for *qui amant ipsi sibi somnia fingunt*) who comes to give him a visit: And these spirits being moved by this sudden assault, being then mingled with the petty bodies or atoms of the longd-for thing which possesseth so powerfully the fantasie they lead them along with themselves to the part of the body which is struck, as also to the same part of the body of the Infant, as well as to his imagination. And after that all which happened is but the same in order to the mother, and the child when the Mulberry or Strawberry fell upon the neck or breast of the Ladies, with whom I have entertained you.

Permit me, my Lords, to enlarge my digression a little further in one word, to racount unto you a marvellous accident, known all over the Court of England, in confirmation of the activity and impression which the imagination of the mother makes upon the body of the Infant, whereof she was big. A Lady that

was my Kinswoman, (she was the neece of Fortescu, the Daughter of Count Arundel) came to give me visits sometimes in London; she was fair, and of a good feature, and she knew it well, taking great complacency, & not only to keep her self so, but to adde that which she could further: thereupon she was perswaded that the patches and flies which she put upon her face, gave her a great deal of ornament, therefore she was earfull to wear the most curious sort: but as it is very hard to keep a moderation in things which depend more upon *Opinion* than *Nature*, she wore them in excesse, and patched most of her face with them; although that did not much adde to her beauty, and that I took the liberty to tell her so accordingly, yet I thought it no opportunity then to do any thing that should give her the least distast, since with so much civility and sweetnesse she came to visit me. Neverthelesse, one day I thought good, in a kind of drolling way,

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(so that she might not apprehend any discontentment) and *Ridentem dicere verum quis vitat?* to tell her of it; so I let fall my discourse upon her big belly, advising her to have a care of her health, whereof she was somewhat negligent, according to the custom of young vigorous women, which know not yet what it is to be subject to indispositions; she gently thanked me for my care herein, saying, That she could do no more for the preservation of her health than she did; though she was in that case: you should at least, I replied, have a care of your child, O for that, said she, there is nothing that can be contri buted more. Yet, I told her, see how many patches you wear upon your face, are you not afraid that the Infant in your womb may haply be born with such marks on his face? But said she, What danger is there that my child should bear such marks, though I put them on artificially? Then you have not heard, I replied again, the marvelous effects that the imaginations

of Mothers work upon the bodies of their children , while they are yet big with them, therefore I will raccount unto you some of them ; so I related unto her sundry stories upon this subject , as that of the Queen of *Ethiopia*, who was delivered of a white boy, which was attributed to a Picture of the Blessed Virgin , which she had near the teaster of her bed, whereunto she bore great devotion. I urged another of a woman who was brought to bed of a child all hairie, because of a pourtrait of Saint John Baptist in the Wildernesse, when he wore a coat of Camels hair. I raccounted unto her also the strange antipathy which the late King *James* had to a naked sword, whereof the cause was ascribed, in regard some *Schotch* Lords had entered once violently into the bed-chamber of the Queen his mother, while she was with child of him, where her Secretary, an *Italian*, was dispatching some letters for her , whom they hacked, and killed with naked swords before her

her face, and threw him at her feet, and they grew so barbarous, that there wanted but little but that they had hurt the Queen her self, who endeavoured to save her Secretary, by interposing her self, at least her skin was rased in divers places. *Bucanan* makes mention of this Tragedy. Hence it came that her son King *James* had such an aversion all his life time to a naked sword, that he could not see one without a great emotion of the spirits, although otherwise couragious enough, yet he could not over-master his passions in this particular. I remember when he dubbed me Knight, in the ceremony of putting the point of a naked sword upon my shoulder, he could not endure to look upon it, but turned his face another way, insomuch, that in lieu of touching my shoulder, he had almost thrust the point into my eyes, had not the Duke of *Buckingham* guided his hand aright.

I alleadged her divers such stories to make her apprehend that a strong imagination of the mother might cause some notable impression upon the body of her child to his prejudice. Moreover, I pray consider how attentive you are to your patches, and that you have them continually in your imagination; for, I observed, that you have looked upon them ten times since you came to this room, in the looking-glasse. Have you therefore no apprehension that your child may be born with half moons upon his face; or rather that all the black which you bear up and down in small portions, may assemble in one, and appear in the middle of his forehead, the most apparant and remarkable part of the visage, and may be as broad as a Jacobus, and then what a grace would it be to the child, Oimee, said she, rather then that should happen, I will wear no more patches while I am with child: Thereupon at that instant she pulled them all off, and

and hurld them away. When her friends saw her afterwards without patches, they demanded how it came to passe, that she who was esteemed to be one of the most curious beauties of the Court, in point of patches, should so suddenly give over the wearing of them: she answered, that her Uncle, in whom she had a great deal of belief, assured her, that if she wore them, during the time she was with child, the Infant would have a large black patch in the midst of his forehead. Now, this conceit was so lively engraven in her imagination, that she could not be delivered of it: And so this poor Lady, who was so fearful that her child might not bear some black mark in his face, yet she could not prevent, but it came so into the World, but that he had a spot as large as a crown of gold in the midst of his forehead, according as she had figured before in her imagination: it was a daughter that she brought forth, very beautifull throughout, this excepted. And
tis

tis but few moneths agoe, that I saw her bearing the said mole or spot which proceeded from the force of the imagination of her mother.

I need not tell you of your neighbour of *Carcassona*, who lately was brought to bed of a prodigious Monster, exactly resembling an Ape, which she took pleasure to look upon, during the time she was with child, for I conceive you know the story better than I. Nor that of the woman of *St. Maixent*, who could not forbear going to see an infortunate child of a poor passenger woman, who was born without armes; and she her self was delivered afterwards of such a Monster; who neverthelesse had some small excrescences of flesh upon the sholders, about the place whence the armes should have come forth. As also of her who was desirous to see the execution of a Criminal, who had his neck broken according to the laws of *France*, whereof she took such

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an affrightment, that made so deep a print upon her imagination, that presently she fell in labour of her child, and before they could carry her to her lodging, but she was brought to bed before her time, of a child who had his head severed from his body, both the parts yet shedding fresh blood, besides that which was abundantly shed in the womb, as if the headsman had done an execution also upon the tender young body within the matrix of the mother. These three Examples, and many others truly alleadged, which I could produce, although they manifestly prove the strength of the imagination, would engage me too far, if I should undertake to clear the causes, and unwrap the difficulties which would be found greater then in any of those instances wherewith I have entertained you, because that those spirits had the power to cause such essential changes, and fearful effects, upon bodies that were already brought to their shapes of perfection,
and

and it may be well believed, that in some of them there was a transmutation of one species to another, & the introduction of a new informing form in the subject-matter, totally differing from that which had been introduced at first, at least if that which most Naturalists tell us, at the animation of the Embryo in the womb be true : but this digression hath been already too long.

Est modus in Rebus, sunt certi denique fines,

Quos ultra citraque nequit consistere Rectum.

To return then to the great channel, and thread of our Discourse, the examples, and experiments, which I have already insisted upon in confirmation of the reasons which I have alleadged, do clearly demonstrate that the bodies which draw the atoms dispersed in the air, attract unto themselves with a greater power and energy, such as are of their own nature then other heterogeneous, and strange atoms ; As wine doth the vinal spirits, The oyl
of

of tartar fermented by the levain of Roses draws the volatil spirits of the rose; The flesh of deer, or venison buried in crust attracts the spirits of those beasts, and so all the other whereof I have spoken.

The History of the Tarantula in the kingdom of Naples is very famous; you know how the venom of this animall ascending by the hurt that the party hath received, being pricked therewith towards the head, and the heart doth excite in their Imagination an impetuous desire to hear some melodious aires, and most commonly they are delighted with differing aires; Therefore when they listen to an aire that pleaseth them, they begin to dance incessantly, and thereby they fall a sweating in abundance, in such sort that this sweat makes a great part of the venom to evaporate, besides the sound of the musick doth raise a movement, and causeth an agitation among the aerean and vaporous spirits which are in the brain, and about the heart, and diffused up and
down

down through the whole body proportionably according to the nature, and cadence of such musick, as when Timotheus transported Alexander the Great with such a vehemency to such and such passions as he pleased; In the like manner also when it happens that one Lute doth sound it makes the strings of the other to shake by the motions and tremblings, which it causeth in the air, though it be not touched otherwise at all: We find also oftentimes that the sounds which are no other thing than the motions of the air, cause the like movement in the water; as the sharp sound which is caused by rubbing hard with ones finger the brim of a glasse full of water, doth excite a noise, a turning, and bouncings in the water of certain drops, as if the water did dance according to the cadence of the sound: The harmonious sounds also of bells in those Countries where they use to be rung to particular tunes doth make the like impressions upon the superficies of the rivers that are nigh the steeple

steeple, specially in the night time
 when there is no other moyement,
 which stops, or choakes the other
 supervenient one ; For the air being
 contiguous , or rather continuous
 with the water, and the water being
 susceptible of movement, there's the
 like motion caused in the fluid parts
 of the water as began in the air, and
 the same contact which is betwixt
 the agitated air, and the water which
 is by this meanes also moved ; hap-
 pens also to be betwixt the agitated
 air, and the vaprous spirits which are
 in those bodies who have been bit by
 the Tarantula, which spirits by con-
 sequence are moved by the agitated
 air, that is to say by the sound; and
 that the more efficaciously, that this
 agitation or sound is proportioned
 to the nature and temperature of the
 party hurt : And this intern agitation
 of the spirits and vapours helps
 them to discharge the vapourous
 venom of the Tarantula which is
 mixt among all their humours ; In
 the like manner that standing puddle
 waters, and corrupted aires being
 putrified

putrified by long repose, and the mixture of other noisome substances are refin'd and purifi'd by motion; but winter approaching which devoures these bealts, people are freed from this malady, but at the returne of that season when they used to be pricked, the mischief comes again, and they must dance again as they did the year before: The reason is that the heat of summer doth stir, and raise up the venom of the beast, whereby it becomes as malignant, and furious as it was before; And the poison being heated, and evaporating it self, and dispersing in the air the levain of the same poyson, which remaines in the bodies of them who have been hurt, drawes it unto it self, whereby such a fermentation is wrought, which infects the other humours, whence a kind of smoake issuing, and mounting to the braines of these poor sick bodies, doth use to produce such strange effects.

It is also well known that where there are great dogs, or mastiffs, as
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in England, if any be bitten perchance by any of these dogs, they commonly use to kill them though they be not mad for fear that the levain of the canine choler which remains within the body of the party bit, draw unto it the malignant spirits of the same dog, which might come to distemper the spirits of the party : And this is not onely practised in England where there are such dangerous dogs, but also in France, according to the report of father Cheron provinciall of the Carmelites in this Countrey, in his examen de la Theologie mystique newly imprinted, and which, I have lately read. I will say nothing of artificiall noses that are made of the flesh of other men, for to remedy the deformity of those who by an extream excesse of cold have lost their own, which new noses do putrifie as soon as those persons out of whose substance they were taken come to die, as if that small parcell of flesh engrafted upon the face did live by the spirits it drew from its first root, and source ;

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For although this be constantly avouch'd by considerable authors, yet I will not insist more upon it, and desire you to think that I offer nothing unto you which is not verified by solid tradition, such, that it were a weaknesse to doubt of it.

But it is high time that I should come now to my seventh, and last principle; it is the last turn of the engine, and as I hope will batter down quite the gate which hindred us an entrance to the knowledge of this so marvailous a mystery, and which will imprint such a lawfull mark upon the doctrine which I hold forth, that it will passe for current money. This principle is, that the source of those spirits or of the bodies which attract them to it selfe, draw likewise after them that which accompanies them, as also that which sticks, and is glued, and united unto them. This conclusion needs not much proof, being evident enough of it selfe, if there be nailes, pins or ribands tied to the end of a long chord, or chain, and if there be a knurle

knurle either of wax, gum, or glue, and that I take this chord or chain by one end, and draw it after me, untill the other last end come to my hands, it cannot be otherwise but that I take into my hands at the same time the naile, the pins, the ribands the knurle, and all that is applied thereunto: I go therefore to relate unto you onely some experiments that have been made in consequence of this principle, who wil most strongly confirm the others produced before.

The great fertility, and riches of England, consists chiefly in pasturage for the nourishment of beasts, we have the fairest in the world, with abundance of other animals, and principally of beef and kine. Ther's not the meanest Cottager but hath a Cow to furnish his family with milk, 'tis the principall sustenance of the poorer sort of people, as 'tis also in Switzerland, which makes them very carefull of the good keeping, and health of their cowes; Now, if it happen that if in boyling the milk it
swells

swells so high that it sheds over the
 brim of the pan, and so comes to fall
 into the fire, the good woman or
 maid, doth presently give over what-
 soever she is adoeing, and runs to
 the pan which she drawes off the fire
 and at the same time she takes a
 handfull of salt, which useth to be
 commonly in the corner of the chim-
 ney to keep it dry, and throws it
 upon the cinders where the milk was
 shed; Ask her wherefore she doth
 so, and she will tell you that it is to
 prevent that the Cow which gave
 this milk may not have some hurt
 upon her udder, for without this re-
 medy, it would come to be hard, and
 ulcerated, she would come to pisse
 bloud, and so be in danger to die;
 Not that this extremity should be-
 fall her the very first time, but she
 would grow ill disposed, and if this
 should happen often, the Cow would
 in a short time miscarry: It might
 seem that some superstition or folly
 might lie herein, but the infallibility
 of the effect doth warrant from the
 last, and for the first many believe
 that

that the malady of the Cow is supernaturall, or an effect of sorcery, and consequently that the remedy which I have alleadged is superstitious, but it is easie to disabuse any man of this perswasion, by declaring how the businesse goes according to the foundations which I have laid; The milk falling upon the candent coales is converted to vapour which disperseth, and filteth it self through the circumambient air, where it encounters the light, and the solar rayes which transport it further; augmenting and extending still farther the spheare of its activity: This vapour of the milk is not alone or single, but 'tis compos'd of fiery atoms which accompany the smoak, and vapour of the milk which gave the milk mingling, and uniting themselves therewith; now, the sphear of the said vapour extending it self unto the place where the cow is, her udder, which is the source whence the milk proceeded, attracts unto it the said malignant vapour, staying, and sticking it selfe there together

together with the fiery atoms that accompanied it. The udder is in part glandulous, and very tender, and so consequently very subject to inflammations, this fire then doth heat, inflames, and makes it swell, and in fine makes it hard and ulcerated; The inflamed, and ulcerated udder is near the bladder, which comes likewise to be inflamed making the anastomoses, and communication which is twixt the veines, and the arteries to open, and to cast forth blood, and to regorge into the bladder, whence ordinarily the urine useth to come forth, and empty it selfe: But whence comes it, you will say that the salt remedies all this? It is because he is of a nature cleane contrary to the fire, the one being hot, and volatil, the other, cold and fixed; Insomuch that where they use to rancounter, the salt as it were, knocks down the fire; by precipitating and destroying its action, as it may be observed in a very ordinary accident; The chimneys which are full of soot use to take fire very easily,

easily, now, the usuall remedy for that is to discharge a musket into the funnell o the chimney which looseth, and brings down with it the fired foot, and then the disorder ceaseth, but if there be no musket or pistoll, or other instrument to draw down the foot, they use to cast a great quantity of salt on the fire below, and that choakes, and hindreth the atoms of fire, which otherwise would incessantly mount up, and joyn with them above, which by this meanes wanting nouriture consume themselves, and come to nothing; The same thing befalls the atomes which are in a train to accompany the vapour of the milk, the salt doth precipitate and kill it upon the very place, and if any do chance to scape, and save themselves by the great struglings they make, and go along with the said vapour, they are nevertheless accompanied with the atomes and spirit of the salt which stick unto them, which like good wraстlers never leave their hold untill they have got the better of their ad-

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versary

versary : And you shall observe by the by, that there is not a more excellent balm for a burning, than the spirit of salt in a moderate quantity: It is then apparant, that 'tis impossible to employ any meanes more efficacious to hinder the ill effects of the fire upon the udder of the cow, but to cast upon her milk being shed over upon the cinders a sufficient quantity of salt: This effect touching the conservation of the coves udder in order to the burning of her milk makes me call to mind that which divers have told me to have seen both in France and in England; viz. when the Physicians do examine the milk of a nurse for the child of a person of quality, they use to make proofs sundry waies before they come to judg definitively of the goodnesse thereof, as by the tast, by the smell, by the colour, and consistence thereof; And sometimes they cause it to be boyled untill it come to an evaporation, and see its residue; with other accidents, and circumstances which may be learnt, and discerned by

by these meanes: But those of whose milk this last experiment hath been made, felt themselves tormented in their papps, and duggs, while their milk was a boyling; therefore having once endured this pain, they would never consent that their milk should be carried away out of their sight, and presence; although they willingly submitted to any other proof than that by fire: Now, to confirm this experiment of the attraction which the coves udder makes of the fire, and vapour of the burned milk, I am going to racount unto you another of the same nature, whereof I my self have seen the truth more than once, and whereof any one may easily make tryall. Take the excrements of a dog, and hurle it into the fire more than once, at the beginning you shall find him heated, and moved, but in a short time you shall see him as if he were burned all over panting, and stretching out his tongue, as if he had run a long course: Now, this alteration befalls him because his entrailes drawing

unto them the vapour of the burn'd excrement, and with that vapour the atomes of fire which did accompany it, they are so changed, and inflam'd that the dog having alwaies a fever upon him, and not being able to take any nourishment his flankes do lock up, which causeth his death at last. It were not proper to divulge this experience among such persons as are subject to make use of any thing for doing of mischief, for the same effects which happen to beasts, would fall upon mens bodies, if one should try such a conclusion upon their excrements: There happened a remarkable thing to this purpose to a neighbour of mine in England the last time, I sojourned there: He had a very pretty and delicate child, and because he would have his eies alwaies upon him, he entertained the nurse at his house, I saw him often, for he was a pragmaticall man, and of good addresles, and I had occasion to use such a man; One day I found him very sad, and his wife a weeping, whereof demanding the reason

reason, they told me that their little child was very ill, and that he had a burning feaver, which inflamed all his body over, which appeared by the rednesse of his face, that he forced himself to go to stool, but he could do little, and that little which he did was covered with bloud, and that he refused also to suck ; And that which troubled them most, was that they could not conjecture any cause how this indisposition should befall him, for his nurse was very well, her milk was as good as could be wished; and in all other things there was as much care had of him as could be ; I told them that the last time I was with them, I observed one particularity whereof I thought fit to give them notice, but something or other still diverted me, It was, that their child making a signe that he was desirous to be set on his feet, he let fall his excrements on the ground, and his nurse presently took the fire-shovell, and covered it with embers, and then threw all into the fire, the mother began to

make her excuses, that they were not so carefull to correct this ill habit of the child, saying that as he advanced in yeares, he should be corrected for it, I replied, that twas not for this consideration that I held this discourse with her, but I was curious to know the reason of her childs distemper, and consequently to find some remedy, And thereupon I related unto them the like accident which had happened two or three yeares before to a child of one of the most illustrious Magistrates of the Parliament of Paris, who was bred up in the house of a Doctor of Physick of great reputation in the same town, I told them also what I have now related unto you touching the excrements of dogs; and I made reflections unto them upon that which they had often heard, and what is often practised in our Countrey, which is that within the villages which are alwaies dirty in the winter, if it happens that there be a Farmer which is more proper than others, and who keeps more neatly the

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the approaches to his house than his neighbours do, the boyes use to come thither in the night time, or when it begins to be dark, to discharge their bellies there, because that in such villages there is not much commodity of easements, besides that in such places so fitly accommodated these gallants, the boyes are out of danger to sink into the dirt, which otherwise might rise up higher than their shooes, but the good housewives in the morning when they open their doores, use to find such an ill favoured smell that transports them with choller. But they who are acquainted with this trick go presently and fire red hot a broach or fire-shovel, and then they thrust it into the excrements all hot, and when the fire lessens, they heat it again oftentimes to the same purpose; In the mean time the boy which made the ordure feels a kind of pain, and collick in his bowells, with an inflammation in his fundament and a continuall desire to go to stool, and he is hardly quit of it

till he suffer a kind of fever all that day, which is the cause that he returns thither no more ; And these women to be freed from such affronts do passe among the Ignorant for sorceresses, and to have made a compact with the divell, since they torment people in that fashion without seeing or touching them. This Gentleman did not disallow those things which I have already told you but was confirmed farther when I told him that he should look farther into the fundament of his child, for without doubt he should find it red, and inflamed; and that visiting him, he should find that it was full of pimples, and excoriated ; It was not long after that this poor child fell into a languishment, and with much pain and pittifull cries he voyded some small matter which in lieu of casting it into the fire, or to be covered with embers, I caused to be put into a bason of cold water which was put in a fresh place, which was continued to be done every
time

time that the child gave occasion, and he began to amend the very same hour, and within four or five daies he became perfectly well recovered, But fearing to trespasse too much upon your patience; I will hold you no longer but with one experiment onely very familiar in our Countrey; and afterwards I will make a summary of all that hath been said, to make you see the force, and value of this whole Discourse.

We have in England as I touched before excellent pasturage for the nourishment and fattening of cattle, so abundantly that it falls out often, that the Oxen come to acquire so excessive store of fat, that it doth extend it self in a great quantity to their leggs, as also to their feet, and hoofs, which oftentimes causeth impostumes in the bottom of their feet, which comes to swell, and cast out a great deal of core, and putrified matter, which hindreth the beast to goe; The proprietors when they observe that, though the beaſt be

never the worse for the shambles, yet are they damnified thereby, in regard that not being able to bring them to London, where the grand market is for fat beefs through all England, as Paris is for Auvergne, for Normandy, and other provinces of France, I say the Graziers not being able to bring them to London, they are constrained to kill them upon the place where their flesh is not worth half the price, that they might have got in London; Now there is a remedy for this inconvenience which is, that one must observe where the Oxe, Cow, or Heifer, doth plant upon the Earth his sick foot, the first time that he riseth up in the morning, and at that very place one must cut out a green turf of that Earth where the beast had trod with that foot, and put this turf upon a tree, or upon a hedg lying open to the North wind, And if that wind come to blow upon the turf of Earth, the beef will be cured within three or four daies very perfectly, but

but if one should put that turf towards the South wind, or South west (which in Tholouze is called *d'Autant* here in Montpellier *le Marin*, and in Italy *le Scirocco*) the distemper in the Oxe will encrease ; These circumstances will not seem superstitious unto you when you will have considered how that by the repose of the night the corrupt matter, or core doth use to gather in a great quantity under the foot of the sick Oxe, and comming in the morning to set his foot upon the ground, he presseth forth the impostume, the matter whereof sticks to that part of the Earth, and makes impressions upon it ; Now, this turf of Earth being put, and exposed in some proper place to receive the dry cold blasts of the Northern winds, the dry cold blasts of that wind doth intermingle with the said corrupted impostumated matter which stretching its spirits all along the air the ulcerated foot of the animal, which is the source of all drawes them unto it
and.

and with them it attracts also the cold dry atomes which cause the cure, the malady requiring no other help than to be well dryed, and refreshed. But if one should expose this turf to a moist hottish wind, it would produce contrary effects.

Behold, my Lords, all my wheels formed, I confesse they are ill fil'd, and polished, but let us try whether being put together, and mounted they will make the engine go, but if these wheeles being well joyned, and placed do draw the conclusion, or this unshaken caraque to a good port, you will, I presume, have the goodnesse to pardon the grossenesse, and rude expressions of my language, and passing by the words you will content your selves with the naked truth of things, let us therefore apply that which hath been spoken to that which is practis'd when a hurt person is cured. Let us consider Mounfieur Howell wounded upon his hand, & a great inflammation hapened upon his hurt, his garter is taken covered with
the

the bloud that issued from the wound, it is steeped in a bason of water where Vitriol was dissolved, one keeps the bason in a closet, at the moderate heat of the Sun, and at night in the chimney corner, in such sort that the bloud which is upon the garter be alwaies in a good naturall temperament neither colder, or hotter than the degree required in a healthfull body; what ought then to result, (according to the doctrine that we endeavour to stablish,) from all this! In the first place the Sun, and the light will attract a great extent, and distance off, the spirits of the bloud which are upon the garter, and the moderate heat of the hearth, which acts gently upon the composition (which comes to the same thing, as if one should carry it dry in his pocket to make it feel the temperate heat of the body) I say the moderate heat of the hearth doth push out the said atoms, as the water which gathers it selfe round in the filtration or strainings
 use

use to drive on that which mounts up to make it go faster, and more easily, making it also to dilate it self, and distill, and so march of themselves a good way in the air, to help thereby the attraction of the Sun, and of the light.

Secondly, the spirit, of the Vitriol being incorporated with the blood cannot chuse but make the same voyage together with the atoms of the blood; Thirdly, the wounded hand expires, and exhales in the mean time continually abundance of hot fiery spirits which gush forth as a river out of the inflamed hurt, which cannot be but that the wound must consequently draw unto it the air which is next it; Fourthly, this air drawes unto it the other air which is next it, and that the next to it also, and so there is a kind of current of air drawn round about the wound. Fifthly, with this air come to incorporate at last the atoms, and spirits of the blood, and the vitriol which were diffused, and shed
a good

a good way off in the air by the attractions of the light, and the Sun. Besides, it may well be that from the beginning the orb, and sphere of these atomes, and spirits did extend it self in so^o great a distance without having need of the attractions of the air, or of the light to make them come thither. Sixthly, the atomes of bloud finding the proper source, and originall root whence they came do stay, and stick there, and so reenter into their naturall beds, and primitive receptacles, whereas the other air is but a passenger, and evapourates away as soon as it comes, as when it is carried away through the funnell of the chimney, as soon as it is drawn into the chamber by the doore. Seventhly, the atomes of bloud being inseparably with the spirits of the Vitrioll, both the one, and the other, do joyntly imbibe together within all the corners, fibres, and orifices of the veines which lye open about the wound of the party hurt, which

which herby are comforted, and in fine imperceptibly cured.

Now to know wherefore such an effect, and cure is so happily performed, we must examine the nature of Vitrioll, which is composed of two parts; the one fixed, the other volatil. The fixed which is the salt is sharp, and biting, and caustique in some degree. The volatil is smooth, soft, balsamicall, and astringing, and 'tis for that reason that vitrioll is made use of as a soveraign remedy in the collyres for the inflammations of the eies, and when they are corroded, and scorched by some sharp and burning humor or defluxion. As also in injections where excoriations and scaldings use to happen, as also in the best plaisters to stanch the bloud, and incarnate the hurt. But they who well know, how to draw the sweet oyl of vitrioll which is the pure volatil part thereof, know also that in the whole closet of nature, there is no balm like this oyl. For
this

this balm or sweet oyl doth heale in a very short time all kind of hurts which are not mortall, it cures, and consolidates the broken veines of the breast, as far as the ulcers of the lungs which is an incurable malady without this balm. Now, 'tis the volatill part of the Vitriol, which is transported by the Sun (the great Distiller of nature) and which by that meanes doth dilate it self in the air, and that the wound, or part which received the læsion, drawes, and incorporates with the bloud, together with its humours, and spirits. And that being true, we cannot expect a greater effect of the volatil vitriol, but that it should shut the veines, stanch the bloud, and so in a short compasse of time, heal the wound.

The method, and primitive manner how to make use of this sympathetical remedy was to take onely some vitrioll, and that of the common sort, as it came from the Druggists, without any preparation or addition

addition at all, and to make it dissolve in fountain water, or rather in raine water, in such a proportion that putting therein a knife, or some polished iron it should come out changed into the colour of copper: And within this water they used to put in a clowt or rag of cloth embrued with the blood of the party hurt the rag being dry, but if it was yet fresh, and moist with the reaking blood, there was no need but to powder it with the small powder of the same vitrioll, in such sort that the powder might incorporate it self, & imbibe the blood remaining yethumid, & keep both the one & the other in a temperate heat, & place, viz. the powder in ones pocket, & the water (which admits not of this comodity) within a chamber where the heat should be temperate. & everytime that one should put new water of vitriol with fresh powder & new cloth, or other bloudied stuff, the patient should feel new easement as if the wound had bin then dress with some soveraign medicament. And
for

for this reason they use to reiterate this manner of dressing both evening and morning.

But now, the most part of those who serve themselves with the Powder of Sympathy, do endeavour to have Vitriol of *Rome*, or of *Cypres*; then they calcine it at the whitenesse of the Sun : And besides, some use to adde the Gomme of *Tragagantha*, it being easy to adde unto things already invented.

Touching my self, I have seen such great and admirable effects of Vitriol it self of eighteen pence the pound, as of that Powder which is used to be prepared now at a greater price : yet notwithstanding I do not blame the present practise, on the contrary I commend it, for it is founded upon reason.

First, it seems that the purest and best sort of Vitriol doth produce the best operation.

Secondly, it seems also that the moderate calcining thereof at the rayes of the Sun doth take away the superfluous humidity of the
Vitriol ;

Vitriol; and this calcination doth not touch any part but that which is good: as if one should boyle broth so cleer that it would come to be gelly, which certainly would render it more nourishing.

Thirdly, it seems that the exposing which is made of the Vitriol to the Sun to receive calcination, renders its spirits more fitly disposed to be transported through the air by the Sun when need requires.

For it ought not to doubted be but that some part of the ætherean fire of the Solar rayes doth incorporate with the Vitriol, as tis plainly discovered by calcining Antimony by a burning glasse, for it much augments the weight of it almost half in half; now some particles of the Solar beams mingling with the Vitriol, in this case the luminous part of that substance is also calcind together, and so is made apt, and disposed to be carryed in the air by a semblable light, and Solar rayes. As we see that to make the tounge
of

of a pump to draw the water the easier from the bottom of a well, one doth use to cast a little water from above upon it. Now, the light carrying with it so easily the substance that is so connatural to it, it carries also with it the same time, with the same facility, that which goes incorporated with it.

Fourthly, these Solar rayes being embodied with the Vitriol, are in a posture to communicate unto it a more excellent vertue than it hath of it self, as we find that Antimony calcind in the Sun, becomes, whereas it was ranck poison before, a most soverain, and balsamical medicament, and a most excellent corroborative of nature.

Fifthly, the Gomme of Tragacantha having a glutinous faculty, and being for the rest very innocent, may contribute something towards the consolidation of the wound.

My Lords, I could adde unto what is spoken many most important considerations touching the form
and

and essence of Vicriol, whereof the substance is so noble, and the origen so admirable, that one may avouch with good reason, that it is one of the most excellent bodies which nature hath produced.

The *Chymists* do assure us that it is no other then a corporification of the universal spirit which animates and perfects all that hath existence in this sublunary World, which is drawn in that abundance by a Lover so appropriated, by means whereof I my self have in a short time, by exposing it only unto the open air, made an attraction of a celestial Vitriol ten times more in weight, which was of a marvailous purenesse and vertue, a priviledge which hath not been given but to it, and to pure virgin salt-peter.

But to anatomise as we ought the nature of this transcendent undividual, which neverthelesse in some fashion may be said to be universal, and fundamental to all bodies, it would require a Discourse far more ample then I have yet made. But

as I perceive I have already entertained you so long a time, it would prove a very great indiscretion to trench further upon your goodnesse, who have hitherto listned unto me with so much attention, and patience, if I should go about to enter into any new matter, and embark my self for a further voyage. Wherefore remitting divers matters to some other time, when you shall please to inorder me, coming now again to the generall consideration of this Sympatheticall cure, I will put a Period to this Discourse, after that I shall have told you two or three words, which will not be of small importance, for the confirmation of all which hath been alleadged by me hitherunto.

I have deduced unto you the admirable causes of the operations, and strange effects of the Powder of Sympathy from their first root. These fundamentall causes are so enchained one within the other, that it seems there can be no default, stop, or interruption, in their proceedings

ceedings. But we shall be the better fortified in the belief of their vertue and efficacy, and how they come to produce the effects of so many fair cures, if we consider that then when some is practised in one of these causes, or in all of them together, we see and perceive immediately an effect altogether differing from the former. If I had not formerly seen a watch or clock, I should be justly surprized, and should remain astonished to see a hand, or a needle, so regularly, mark the journal hours, and motion of the Sun, upon the flat of a quadrant; and that it should turn, and make its round every four and twenty howers, there being nothing seen that should push on the said needle: But if I look on the other side, I see wheels, refforts, and counterpoises, which are in perpetual movement; which having well, and soberly considered, I presently suspect that those wheels are the cause of the movement, and turnings of the said needle, although

though I cannot presently discern or know how those moving wheels do cause a motion, in the needle of the quadrant, because of the plate that lieth interposed betwixt them. Therefore I reason thus within my self; That every effect whatsoever must have of pure necessity some cause, and therefore that the body moved there, ought necessarily to receive its movement from some other body, which is contiguous to it. Now I see no other body which makes the needle of the quadrant to move and turn them the said wheels, therefore I must of force be perswaded to attribute the movement unto them. But afterwards, when I shall have stoped the motion of those wheelles: and taken away the counterpoise, and observed that suddenly the needle ceased to move, and that applying again the counterpoise, and giving liberty for the wheel to turn, the needle returns to her ordinary train, or by making one wheel to go faster by putting my finger unto it,

or by adding more weight to the counterpoise, the needle doth hasten, and advance its motions proportionably. Then I grow to be convinced and entirely satisfied, and so I absolutely conclude that these wheels and counterpoises are the true cause of the motion of the needle.

- In the same manner, if interrupting the action of any of those causes which I have established for the true foundation of the Sympathetical Powder, I alter, retard or hinder the cure of the wound; I may boldly conclude, that the fore-said causes are the legitimate, and genuine true causes of the cure, and that we need not amuse our selves to make indagations for any other.

- Let us then examine our businesse by that bias. I have affirmed that the Light transporting the atoms of the Vitriol, and of the blood, and dilating them to a great extent in the air, the wound or place hurt, doth attract them, and thereby is immediately solac'd, and eased, and consequently

quently comes to be healed by the spirits of the Vitriol, which is of a balsamical virtue. But if you put the bason, or Powder with the cloth embrued with bloud, within an Armory, or into a corner of some cold rooms, or into a cave, where the light never comes, nor fresh air, which makes the place corrupted, and to have ill smells, in that case the wound can receive no amendment, nor any good effect from the said Powder. And it will fall out in the same manner, if having put the bason, or Powder in some By-corner, and that you cover them with some thick cloth, stuffing and spongie, which might imbibe the atomes that use to come forth, and which retain the the light and rayes which enter there, where they are thereby stopped and quite lost. Moreover, if you suffer the water of Vitriol, to congeale into ice, or the cloth wherein tis dipped, the party hurt shall be sensible at the beginning of a very great cold in his wound; but when it is iced all over, he shall feel

neither heat nor cold, in regard that congealed cold doth constipate the pores of the water, which nevertheless doth not cease to transpire, and send forth spirits. If one should wash the cloth, spotted with blood, in vinegar, or lye (which by their penetrating acrimony, transports all the spirits of the blood) before the Vitriol be applied, it will produce no effect, yet if it be washed but with pure simple water, it may nevertheless do something, for that water carries not away so much, but the effect will not be so great, as if the blood-spotted piece had not been washed at all, for then it is full of the spirits of the blood. The same cure is performed by applying the remedy to the blade of a sword which wounds a body, if it come not to passe that the sword be too much heated by the fire, for then it would make all the spirits of the blood to evaporate, and in that case the sword would serve but little to perform the cure. Now, the reason why the sword may be

be dressed in order to the cure, is because the subtile spirits of blood do penetrate the substance of the blade, as far as the extent, which the sword made within the body of the the wounded party, where they use to make their residence, there being nothing to chase them away, unlesse it be the fire as I said before. For experiment whereof hold it over a chafing-dish of moderate fire, and you shall discern on the side opposite to the fire a little humidity which resembleth the spots that ones breath makes upon looking-glasses, or upon the burnished blade of a sword. If you look upon it athwart, some glasse which makes the object seem bigger, you shall find that this soft dew of the spirits consists in little bubbles, or blown bladders: and when once they are entirely evaporated, you shall discern no more upon the weapon, unlesse it were thrust a new into the body of a living person. Nor from the beginning shall you discover any such thing, but precisely upon the part of

the blade, which had entred the wound.

This subtil penetration of the spirits into the hard steel, may confirm the belief of the entrance of such spirits into the skin of a woman big with child, as I remind to have proposed unto you in my sixth Principle remarkable in its own place. Now then, while the spirits lodge in the sword, they may serve as great helps for the cure of the Patient, but when the fire hath driven them all away, the remedy applied to the sword, will not availe any thing at all. Furthermore, if any violent heat accompanies these atomes it inflames the wound, but common salt may remedy that, the humidity of water humectates the hurt, and the cold causeth a chillesse in the party wounded.

To confirm all these particulars, I could adde to those I have already raccounted many notable examples more, but, I fear me, I have already too much exercised your patience, therefore I will industriously pretermit.

mit the mentioning of them at this time, but I offer to entertain any of this Honourable Assembly therewith, if they have the curiosty to be informed of them accordingly.

I conclude then, Messieurs, by representing unto you that all this mystery is guided, and governed all along by true natural wayes and circumstances, although by the agency and resorts of very subtil spirits.

I am perswaded my Discourse hath convincingly shewed you, that in this Sympathetical cure, there is no need to admit of an action distant from the Patient. I have traced unto you a real Communication twixt the one and the other, viz. of a Balsamical substance, which corporally mingleth with the wound.

Now it is a poor kind of pusillanimity, and faintnesse of heart, or rather a grosse ignorance of the Understanding, to pretend any effects of charm or magick herein, or to confine all the actions of Nature, to the grossenesse of our senses, when we have not sufficiently considered,

nor examined the true causes and principles whereon tis fitting we should ground our judgement : we need not have recourse to a Demon or Angel in such difficulties.

*Mec Deus interfit, nisi dignus vindice
 nodus
 Insiderit.* —————

Τ Ε Λ Ο Σ.



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